THE ROLE OF ACCOUNTABILITY IN ENHANCING ENVIRONMENTAL SUSTAINABILITY: EVIDENCE FROM NIGERIA

BY

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ABSTRACT

The stakeholder perspectives on corporate social responsibility (CSR) approach that could boost firm's environmental performance, particularly in developing countries, is scarce in literature. In addressing this gap, this research examines the perceptions of stakeholders on accountability perspectives on CSR (APCSR) contribution to environmental sustainability drawing evidence from three groups of environmental stakeholders in oil and gas (O&G) industry in Nigeria. A holistic approach was adopted by employing an extensive theoretical framework, which integrates Stakeholder, Social Contract, Accountability, and Reasoned Action theories. A programme of quantitative enquiry was employed in conducting the investigation and a total of 418 respondents from the three groups of participants included in the survey. Using multi-variate analytical technique, the thesis investigates the mediating role of accountability in the nexus of environmental sustainability factors. In evaluating the multi-variables understudy, the exploratory and confirmatory factor analyses were used along with structural equation modelling and multi-group invariance analysis. The findings suggest that stakeholders differ significantly on the role of accountability in enhancing CSR contribution to environmental sustainability. Whereas the external stakeholders perceive that APCSR has high tendency to boost corporate commitment to environmental sustainability, firms' propensity to align CSR initiatives with real/potential pollution impacts, and corporate transparency on environmental impacts information, the internal stakeholders' data only support transparency. The thesis contributes to environmental sustainability and CSR literature by offering a framework of CSR contribution to sustainability with a Four-Step Environmental Sustainability (FSES) model that positions accountability as a mediating factor that could boost corporate responsiveness. The key theoretical implication is that where a company breaks its *social contract* obligations of pollution prevention and environmental protection, the community *stakeholders* will perceive the environmental risk and threaten to withdraw the *license to operate* and demand for a strict system of environmental *accountability*. Depending on the robustness of the accountability system, the company will respond in by environmental performance that is compliant with stakeholder expectations of responsible and sustainable business operations. The policy implication is that oil MNCs could ease corporate-community tension by considering the perspectives of key constituents of stakeholders in their social/environmental responsibility programmes.

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LISTS OF ACRONYMS AND ABBREVIATIONS

AcctProc	Accountability Procedures
AIC	Akaike’s Information Criteria
AMOS	Analysis of Moment Structures
APCSR	Accountability Perspective of CSR
APEPR	Awareness of Perceived Environmental Pollution Risks
AVE	Average Variance Extracted
C.R	Critical Ratio
CBI	Corporate Behavioural Intention
CCES	Corporate Commitment to Environmental Sustainability
CEP	Corporate Environmental Performance
CES	Corporate Environmental Sustainability
CFA	Confirmatory Factor Analysis
CFI	Comparative Fit Index
CFP	Corporate Financial Performance
CNAB	Communities’ Negative Attitudinal Behaviour
CNGOs	Communities & NGOs Group
CoComit	Corporate Commitment
CoIntent	Corporate Intention
ComReact	Communities Reaction
CR	Composite Reliability
CSR	Corporate Social Responsibility
CSRAlign	CSR initiative Alignment
CSRIA	CSR Initiatives Alignment with pollution impacts
DELSU	Delta State University
EAM	Environmental Accountability Mechanisms
EFA	Exploratory Factor Analysis
EnvTransp	Environmental Transparency
ES	Environmental Sustainability
EXPTs	Experts (SMOE & Academic Group of Respondents)

FEPA	Federal Environmental Protection Agency
FPIC	Free Prior and Informed Consent
GFI	Goodness of fit Index
GOF	Goodness-of-Fit
HCs	Host Communities
IFI	Incremental Fit Index
JV	Joint Venture
LCs	Local Communities
LVs	Latent Variables
MGI	Multi-Group Invariance
MLE	Maximum Likelihood Estimation
MNCs	Multi-National Corporations
MOSOP	Movement for the Survival of Ogoni People
NDR	Niger Delta Region
NDU	Niger Delta University
NFI	Normed Fit Index
NGOs	Non-Governmental Organisations
NID	Negative Injunction Duty
NonCompli	Non-Compliance with Environmental Requirements;
NPNID	Non-Performance of Negative Injunction Duty
OMNCs	Oil Multi-National Corporations
RFI	Relative Fit Index
RiskAw	Risk Awareness
RMSEA	Root Mean Squared Error of Approximation
SCT	Social Contract Theory
SD	Sustainable Development
SEM	Structural Equation Modelling
SMOE	State Ministry of Environment
SPDC	Shell Petroleum Development Company
SPSS	Statistical Product & Service Solution
TEII	Transparency on Environmental Impacts Information

TLI	Tucker Lewis Index
TOA	Theory of Accountability
TRA	Theory of Reasoned Action
UNIBEN	University of Benin
UNICAL	University of Calabar
UNIPORT	University of Port Harcourt
UNIUYO	University of Uyo
VPCSR	Voluntary Perspective of CSR

CHAPTER 1

INTRODUCTION

When people identify an instance of unfair treatment, they are holding someone accountable for an action (or inaction) that threatens another person's material or psychological well-being (Folger & Cropanzano, 2001, p3).

1.1 Introduction

This thesis explores the perceptions of the environmental stakeholders on influence which accountability procedures could have on corporate social responsibility (CSR) contribution to environmental sustainability in developing countries. The evidence is drawn from oil and gas (O&G) industry in Niger Delta region of Nigeria. This chapter lays out the context of the whole thesis. Generally, accountability as defined by Gray *et al.* (1996) is 'the duty to provide an account (not necessarily a financial account) or reckoning of those actions for which one is held responsible' (p38). It has two crucial components:

> It arises as a result of a relationship between two or more parties (be they individuals, loose association or organisations) and its nature is determined by the social and moral context in which the relationship is manifest (Gray *et al.*, 2014, p50).

In other words, accountability is a concept used in *moderating* the relationship of two or more parties. By extension, environmental accountability as defined in Lehman (1999) involves 'a *process that standardises environmental concerns* by identifying, where possible, environmental assets and liabilities' (p218). The need for accountability process emerges where instance of unfair treatment arises in a relationship (Folger & Cropanzano, 2001). In this study, accountability is defined as *a procedure that allows concerned parties to review individual's or organisation's past performance against a given standards and partake in setting achievable standards with clear expected performance evaluation parameters*. Therefore, there are two aspects of accountability, namely: *retrospective accountability* (i.e. providing information about past performance), and *prospective accountability* (i.e. providing information about how future performance will be improved) (Schedler, 1999). The possible influence which this forward and backward procedures of accountability could have on CSR contribution to environmental sustainability is explored in this study in the context of developing countries.

As a procedure, environmental accountability entails involvement of stakeholders in environmental standards setting, conducting of environmental audits, compliance monitoring and enforcing. Standardisation of environmental concerns aids firms to operate with the sense of accountability to environmental stakeholders. The environmental auditing centres on cross-checking of the environmental performance against the set standards, while monitoring focuses on general environmental surveillance, identification of new incident and bringing same to the management attention. Enforceability is a dormant component of accountability if the environmental system runs as expected. However, the component is invoked where there is a breakdown in the environmental system. These components are the underlying indicators of environmental accountability procedures in this study.

Indeed, CSR is one of the media through which corporations contribute to social/environmental sustainability (Moon, 2007). It is a useful tool for managing the corporate relationship with social settings. This manner of management goes beyond responding to time event, and takes the form of 'creating multi-stakeholder value, learning to build relationships and partnerships, redefining one's "license to operate", and reflecting deeply on what legitimises one's roles and actions (Lozano,2004, p104). In this context, Lozano asserts that *accountability* becomes central because it does not merely show a new way of doing business but rather goes to the core of what business is all about.

Therefore, CSR is a principle stating that corporations should be accountable for the effects of any of their actions on the community and environment (Frederick *et al.*, 1992). It is means which firms can manage and/or influence the attitudes and perceptions of their stakeholders and thus build their trust (Cooper & Owen, 2007). The term is used in this study to portray corporate activities that address social/environmental concerns of the stakeholders with no primary motives of immediate financial benefits.

Sustainability, corporate sustainability, sustainable development (SD), CSR and corporate responsibility are terms used in studying the relationship of a corporation with a wider constituent of stakeholders (Roca & Searcy, 2012). In terms of CSR and corporate sustainability, some authors have noted that they are closely associated (Roca & Searcy, 2012); while some consider them as synonyms (van Marrewijk, 2003) others argue that the two terms have converged to the very similar concepts of economic, social and environmental sustainability in recent years (Steurer *et al*., 2005). However, it is important to note that some authors believe there remain subtly distinct between them (Roca & Searcy, 2012). These three dimensions (economic, environmental, and social) are often referred to as the "triple bottom line" (Elkington, 1998; Bansal, 2005; Roca & Searcy, 2012). The present study is concerned with the environmental dimension of corporate sustainability.

Corporate sustainability in general refers to corporations' inclusion of social and environmental concerns in their business operations and interactions with stakeholders (van Marrewijk, 2003). Environmental dimension of sustainability is concerned with an organization's impacts on living and non-living natural systems, including ecosystems, land, air, and water (Global Reporting Initiative, 2014, Online). It centres on ways corporations explore the natural environment. Hence, Stenmark (2002) argues that while business is striving to achieve economic growth and contribute to the satisfaction of basic human needs, the growth should be achieved in an ecological sustainable way. This makes the concept of *sustainability* central in product stewardship of firms (Hart, 1995). Therefore, environmental sustainability (ES) and corporate environmental sustainability (CES) are used interchangeably in this study.

Corporate social performance, corporate social responsiveness, and corporate contribution to sustainability are some of the terms used in studying the outcome of CSR and corporate sustainability initiatives (Wood, 1991a; Wood, 2010; Lazono, 2015). When the CSR initiative is focused on environmental dimension of "triple bottom line" the outcome is considered corporate environmental performance (CEP), contribution to ES, or CSR contribution to ES (Russo & Fouts, 1997; Bhattacharyya & Cummings, 2015). Therefore, CSR contribution to ES implies CEP and it is used interchangeably in this study. This concept captures corporate responsiveness to environmental issues within and beyond its immediate physical business environment.

In real terms, the need for firms' contribution to SD cannot be overemphasised. However, some firms are reluctant in making substantial contributions to ES while pursuing their business objectives. The motivations for and nature of business contribution to SD are debated extensively in literature (Russo & Fouts, 1997; Al-Tuwaijri *et al.*, 2004; Brammer & Pavelin, 2004; Moon, 2007; Brammer & Millington, 2007; Jallow, 2009; Amadi & Abdullah, 2012). When narrowed down to ES, external regulatory pressure is considered a major driving factor behind firm's use of CSR initiatives to contribute to ES in many developed countries (Young & Welford, 2002; Christman, 2004). In others, particularly developing countries, there are long standing state governance weakness (Khan, 1994; Kolk & Van Tulder, 2010), and thus lack of strong regulatory influence on CSR as medium of ES. For instance, Reports on the Observance of Standards and Codes (ROSC) highlighted 'institutional weakness in regulation, compliance, and enforcement' in country specific report for Nigeria (Adegbite, 2012, p260). The huge question is what then can influence CSR contribution to environmental sustainability in developing countries? Accountability procedure is proposed in this study as an intermediary factor that can enhance CSR contribution to ES in developing countries. The link of environmental accountability to CSR is discussed in Brucksch & Grünschloß (2009).

The remaining chapter is organised as follows: the motivation and scope of the study is discussed in the next section, while the problem statement and the objectives of the study are in section 1.3 and 1.4, respectively. The research questions are the subject of section 1.5. Overview of research method adopted is presented in section 1.6, while in section 1.7 the originality and contribution of the study to the body of knowledge is discussed. Finally, an outline of the contents of the remaining chapters of the thesis is presented in section 1.8.

1.2 The Motivation and Scope of the Study

The motivation for this study arises from dearth of empirical research and literature regarding main drivers of CSR contribution to ES in developing countries, particularly in Nigeria O&G industry. Moreover, the environmental phenomenon associated with oil exploration and production has remained with the host communities in Niger Delta for decades. The conflict between oil companies and communities, the anti-protest activities of government and oil companies, persistent negative community reaction, and general impoverishment of the host communities have informed "resource curse thesis" being linked to oil resources in the region (Frynas, 2001; Ite, 2005; Idemudia, 2012).

In developed countries, formal regulatory pressure drives CSR contribution to SD (Christman, 2004). In the context of developing countries, characterised by weak state governance and legal system (Khan, 1994) the external pressure from civil society organisation is considered as the main driver of CSR contribution to SD (Woods, 1995; Boele *et al.*, 2001a Idemudia, 2014b). Moreover, the studies on CSR contribution to SD in developing countries focus on social and economic aspects of sustainability (Ite, 2005; Eweje, 2006; Muthuri, 2007; Idemudia, 2007; Idemudia, 2008; Muthuri *et al.*, 2009; Amadi & Abdullah, 2012) with no empirical investigation, as far as the researcher is aware, on contribution of CSR to physical environment component of SD.

Of course, Lozano (2008) indicates that environmental component of SD is neglected in countries where basic human needs, such as food and shelter are not fulfilled. This is a common scenario in most developing countries, including Nigeria (Idemudia, 2008). However, there are three interrelated components of SD: economic, social, and natural environment (Dyllick & Hockerts, 2002; Moon, 2007; Lozano, 2008; Garza, 2013). Dyllick & Hockerts (2002) emphasise that SD cannot be achieved where any of these components is not integrated into SD programme.

Apparently, the informal external pressure that has succeeded to influence, to some extent, oil firms' CSR contribution to economic and social components of SD is found to have failed in terms of contribution to environment component of SD (Boele *et al*, 2001b; Idemudia, 2009b). To improve the situation, stakeholder participation strategy has been adopted, but it is also considered to have failed in driving SD (Idemudia, 2009a). This creates a gap in literature on what could influence CSR contribution to environmental sustainability in developing countries. Therefore, the aching question is what is the key factor that could complement the pressure of external stakeholder on oil companies' use of CSR initiatives to improve the environmental component of SD in the Nigeria?

The researcher is cognisant of the fact that with no system that involves stakeholders in the implementation, monitoring and evaluation, participation strategy would not achieve its aim. The reason is that corporate managers routinely break the promises they make in their environmental policy statements (Ketola, 1997). To address this problem, accountability is proposed as a compliance/performance based mediating factor that could be embedded in stakeholder involvement strategy when attempting to improve environmental performance to the satisfaction of the stakeholders. As an intermediary factor, accountability procedure is expected to complement the efforts of the stakeholders and civil organisations.

Moreover, there is no empirical evidence to indicate whether an application of this form of mediating factor can drive CSR contribution to ES in the context of developing countries. These identified the gaps in literature which motivated the present study. The persistent corporate-community conflicts in extractive industries, particularly in developing countries, over multinationals environmental degradation makes this investigation imperative. The study is also important as it provides insight on the possible ways of improving the environmental situation in Niger Delta and thus restores lasting peace among environmental stakeholders in the region.

Although the findings of the study could be applicable to other industries in all places, it is important to clarify the context within which the study was undertaken. The study was aimed at investigating from the perspectives of environmental stakeholders the nature of influence which application of APCSR could have on corporate ES policy and practice in developing countries with evidence drawn from Nigeria O&G industry. In other words, the study explores the role of accountability in driving CSR contribution to ES.

1.3 Problem Definition

The main contention of the present thesis is, in the absence of strong state regulatory pressure what factors could drive CSR contribution to environmental sustainability in the context of O&G industry in Nigeria? What are the perceptions of different stakeholder groups on determinants of CSR contribution to environmental sustainability in Nigeria? To what extent would accountability procedures improve CSR contribution to ES in Nigeria? Or what CSR approach could best enhance firms' contribution to environmental sustainability in developing countries?

The focus of this study was to conduct a detailed evaluation of environmental phenomenon in Niger Delta with aim of providing informed empirical answers to these fundamental questions. These key questions formed the basis for the research objectives and subsequent refined research questions.

1.4 Research Aim and Objectives

The research aims at exploring the perceptions of stakeholders on whether APCSR could boost environmental sustainability in Nigeria. This aim is divided into the following research objectives expected to be achieved at the end of the study:

- To identify and assess what expert group of external stakeholders believe to be the main corporate environmental sustainability factors in O&G industry in Nigeria.
- To find out stakeholders' opinions on whether corporate non-compliance with environmental requirements relates with pollution risks awareness and communities' negative reaction towards polluting oil companies in Nigeria.
- To examine whether pollution risks awareness and negative reaction of communities can influence corporate tendency to adopt accountability procedures.

- To investigate the factors behind corporate voluntary improvement in environmental behaviour.
- To examine whether APCSR can enhance corporate environmental sustainability practice in Nigeria.

1.5 Research Questions

Based on the motivation and objectives of this study, the following research questions were developed to systematically guide the achievement of these objectives.

- What are the main corporate environmental sustainability (CES) factors in Nigeria O&G industry?
- Why should oil multinational corporations give serious attention to their environmental obligations?
- To what extent would pollution risk awareness and communities' negative reactions influence oil MNCs likeliness to adopt environmental accountability procedures?
- To what extent would the sense of accountability and community negative reaction influence corporate managers' intention to improve environmental behaviour?
- Why should oil MNCs adopt APCSR in their effort to improve environmental sustainability in Nigeria?

1.6 Overview of Research Method

To answer the above stated research questions, the study employed the quantitative method with survey data collected from oil multinational corporations (OMNCs), host communities, non-governmental organisations (NGOs), State Ministry of Environments (SMOE), and academics from faculties of social, management, and environmental sciences in selected universities, all in Niger Delta. The participants from OMNCs were drawn from Shell, Exxon/Mobil, Total, and AGIP. The host communities, NGOs, and SMOE were chosen from four states in Niger Delta: Rivers, Delta, Bayelsa, and Akwa Ibom State; while two additional States, Edo and Cross River, were included when choosing participants from academics.

In all, 418 respondents were included in the study. To answer the first research question, exploratory factor analysis (EFA) was employed in identifying, assessing, and refining factors that could influence ES in Niger Delta region. Only 116 sample from academics was *exclusively* used in exploratory analysis while others were included in CFA and SEM analysis. This aspect of analysis enabled factors identification before employing CFA and SEM to investigate the theoretical patterns of these factors (Fabrigar *et al*, 1999).

To answer the second, third, fourth and fifth research questions, the hypotheses were developed and tested with remaining 302 (418 - 116) sample using CFA and SEM techniques. All the hypotheses were developed from the related literature and theoretical underpinnings of the study. The multi-group invariance (MGI) analysis was conducted to establish the perspectives of group participants on likely influence of accountability on CSR contribution to ES.

The main empirical findings suggest that environmental stakeholders differ on the role of accountability in enhancing CSR contribution to environmental sustainability. The external stakeholders consider APSCSR as the right approach that can lead to CSR contribute to ES in Nigeria. In their perception, APCSR has high tendency to boost corporate commitment to environmental sustainability, CSR alignment with business negative impacts, and transparency on environmental impacts information. However, internal stakeholders do not share this opinion; except that accountability could boost transparency in disclosure of environmental impact information.

1.7 Originality and Contribution to Knowledge

The growing body of literature (Henriques & Sadorsky, 1996; Dasgupta *et al.,* 2000; Christmann, 2004; Murillo-Luna *et al.,* 2008; Sarkis *et al.,* 2010; Frynas, 2012) has identified state regulatory pressure as major driver of CSR contribution to ES in many parts of the world. Sharma & Nguan (1999) points to environmental risk propensity; while some suggest that economic and financial performance drive CEP (Cochran & Wood, 1984; Russo & Fouts, 1997; Orlitzky *et al.,* 2003; Tsoutsoura, 2004; Moneva & Ortas, 2010). Other investigations point to ethical and economic reasons (Cetindamar & Husoy, 2007; Unerman & O'Dwyer, 2007). The present study is unique in that it is the first to use SEM in exploring the relationship of environmental accountability procedures with indicators of CSR contribution to ES drawing sample from three main environmental stakeholders (firms, governmental agencies, and society) in O&G industry in Nigeria. The thesis makes the following original theoretical contributions to CSR and ES literature:

First, by identifying empirically the environmental accountability procedures, CSR alignment with business negative social impact, and transparency on environmental impact, the thesis offers fresh insight on the ongoing debate on factors that could lead to CSR contribution to environmental sustainability and pollution reduction in developing countries. As far as the researcher is aware, the empirical evidence on whether the identified driving, intermediating, and corporate responsiveness factors are relevant in the context of O&G industry in developing countries is not explored in literature. Besides, no study examined the underlying dimension of these factors and their correlations, and thus, this study addressed this vacuum. Furthermore, this exploratory study signals the need for studying the environmental sustainability problems using a variety of theories, perspectives and methods. This would extend scholarly understanding of this complex and a hugely critical issue affecting our environment and society.

Second, the thesis offers Four-Step Environmental Sustainability (FSES) model that posits extant environmental situation as a major exogenous factor that generates series of actions and reactions by stakeholders in an industry (see Figure 5.1, Chapter 5). It provides fresh insight into a complex structure of actors in a business environment and the informed ways their actions and reactions could be investigated empirically to establish whether they could lead to stakeholders desired improvement in environmental performance. It lays out a roadmap for researchers who are interested in investigating CSR contribution to environmental sustainability, particularly where regulatory system is weak. It presents a holistic approach that aids understanding of possible ways APCSR and voluntary perspective of CSR (VPCSR) could contribute to sustainability. It demonstrates that dual aspects of environmental accountability (retrospective and prospective) have high tendency to optimise CSR contribution to CES and create and/or restore environment conducive to productive business in a sensitive industrial zone (Section 5.2, Chapter 5). It also illustrates the need of *intention driven factors* in a highly environmentally visible industry, as this could lead to corporate voluntary use of CSR initiatives to contribute to sustainability. This theoretical framework was tested in this thesis.

Third, the thesis contributes to CSR and ES literature from the theoretical lenses of social contract, stakeholder, accountability, and reasoned action theories employed in this study. The thesis provides the evidence that suggest that where corporations breach the terms and conditions of *social contract*, by failing in their ethical obligations of continuous pollution prevention and environmental protection, *stakeholders* will perceive the environmental risk and respond in diverse ways. The external *stakeholders* will see this as unfavourable condition (i.e., condition that triggers need for accountability) in a community-corporate relationship and will threaten to withdraw the *"license to operate"* through negative reactions towards environmental polluting firms and they will also demand for a system of environmental *accountability*. The internal stakeholders on the other hand will not support a system of environmental accountability; they will rather prefer allowing corporate managers to think through complex structure of stakeholders and accountability procedure and come up with *reasoned actions* that would improve the environmental condition. Interestingly, external stakeholders will demand for APCSR to be adopted by oil multinationals because they believe that could lead to expected performance; while internal stakeholders will prefer oil multinationals to use VPCSR initiatives in their effort to contribute to environmental sustainability. This aspect of contribution is based on the findings which indicate that in the perceptions of the external stakeholders, intention and accountability could lead to CSR contribution to environmental sustainability; while to the internal stakeholders the environmental situation could only be improved intentionally by corporate managers (see Section 4.7).

Fourth, the thesis is the first to provide evidence that suggest that when *accountability* and *stakeholder* theories are complemented with the theory of *reasoned action* a better understanding of corporate managers' voluntary use of CSR initiatives to contribute to environmental sustainability is obtained. The findings suggest that corporate managers will proactively improve environmental behaviour based on their psychological believe that they could be held accountable for unacceptable performance and that external stakeholders may take negative actions against them. The thesis illuminates our understanding of factors behind VPCSR contribution to environmental sustainability. In other words, behind every use of VPCSR to contribute to CES there is strong external pressure and/or a system of accountability.

1.8 Structure of the Thesis

The remaining thesis is structured as follows: the next four chapters (Chapter 2, 3, 4 and 5) present a review of the related contextual, empirical/theoretical literature and the theoretical underpinnings of the study. Chapter 6 discusses the research method and associated limitations. Chapter 7 presents the results of the analysis and interpretations, while chapter 8 discusses the findings of the study. The conclusion of the study is presented in Chapter 9. A more detailed overview of the chapters is presented below.

Chapter 2 provides the contextual background of the study. It begins with the brief history of Nigeria and its dependency on oil revenue. It follows with overview of O&G industry in Nigeria with attention on joint venture agreement (JVA) of Nigerian National Petroleum Corporation (NNPC) with oil MNCs. The review reveals that government's share in oil companies undermines its disposition toward environmental issues in Niger Delta. The chapter examines in detail the impact of oil exploration and production on the local communities in the region. It also discusses the CSR initiatives of OMNCs and the focus of such programmes. The review gives a clear indication that the CSR initiatives focus on socio-economic aspects of SD with no serious attention on environmental perspective.

Chapter 3 discusses the literature on CSR as related to sustainability and accountability. The chapter begins with CSR, its origin and definition. The ES as related to development is discussed with aim of clarifying the natural environment component of SD. The chapter explicates the main perspectives on CSR contribution to ES with related empirical evidence. A sound system of environmental accountability is identified as the most unexplored factor that could enhance CSR contribution to ES. This informs the present investigation.

Chapter 4 presents the theoretical underpinnings of the work. The first three main inter-connected theories – stakeholder, social contract, and accountability – which none in isolation can explain why business should contribute to ES are discussed. In addition, the theory of reasoned action (TRA) is used to explain the intentional response of corporations based on anticipated consequences of failing to respond. The study theoretical framework and hypotheses developed using the reviewed literature and the existing theories are presented in chapter 5.

The research methodology employed in this study is described in chapter 6. It begins with discussion of rigour and relevant of environmental and management research. It is followed by the methodological framework that points out the most relevant approach and strategy required when designing this manner of investigation. The research design and strategy employed, and data collection techniques are discussed in this chapter. Finally, the methods of analysis and the limitation of the research design followed.

The results of the study are presented in chapter 7. The chapter begins with demographic analysis of respondents. The CES factors in developing countries are identified and the theoretical relationships of the ES and CSR drivers' constructs are analysed. Chapter 8 presents the discussion of findings, which establish the nexus of the results with the extant literature and theories. The last chapter presents the summary of findings, policy implication of the study, theoretical contributions and suggestion for further research.

CHAPTER 2

CONTEXTUAL BACKGROUND OF THE STUDY

Unhappiness in general and pain in particular, are more intensely felt than happiness and pleasure. … Intense suffering by a minority will always outweigh any happiness the majority might derive from being advantaged by the suffering (Chryssides & Kaler, 1993, p96).

2.1 Introduction

In this chapter, the environmental issues concerning oil multinational corporations (OMNCs) and Niger Delta communities are critically examined. It begins with a brief history of Federal Republic of Nigeria, followed by the constituent states of Niger Delta in Nigeria. Nigeria O&G industry was overviewed with the aim of gaining insight into how the oil industry is positioned in Nigeria, politically and economically. The legislative framework as related to ES is discussed, and the impacts of oil exploration and production on HCs are examined with aim of highlighting the environmental issues in the region. The CSR approaches of OMNCs and how such approaches contribute to ES are examined. The chapter is concluded with a summary.

2.2 A Brief History of Nigeria

Nigeria gained independence from Britain in 1960. In 1963, it adopted a federal system of government and republican constitution. The three-tier government structure, which is made up of federal, state and local government was also adopted in 1963. The country has 774 local government areas and 36 states, including the Federal Capital Territory at Abuja (see Figure 2.1). Its population as at 2006 census was 167 million (National Population Commission, 2010) and the estimate as at 2016 is 186.99 million (UNdata, 2017, online). It has the landmass of 924,000 sq km (Fagbohun, 2007).

Figure 2.1: Map of Nigeria showing the States and Federal Capital

Source: http://en.wikipedia.org/wiki/Nigeria

Nigeria had agricultural based economy prior to the discovery of crude oil in 1956, and its subsequent extraction from 1958. However, with this discovery and extraction of oil in commercial quantity, the economy has transformed over the years from an agricultural based to petroleum dependent economy. Specifically, between 1960 and 2012, oil production increased from around 5100 barrels per day to 2.68 million barrels per day (Idemudia, 2012). Government revenue, on the other hand increased from ₦66 million (sixty-six million naira) in 1970 to over ₦10 billion (ten billion naira) in 1980 (Watts, 2005).

Presently, the country has turned a *rentier state* (Idemudia, 2010); the terminology Yates (1996) uses in describing a situation where a country receives a substantial amount of external economic rent on a regular basis. This rentier status of the Nigeria state is so conspicuous given that oil accounts for 40 per cent of its GDP, 95 per cent of exports and more than 83 percent of government revenue, and 95 percent of the country's foreign exchange earnings in recent past (Okonta & Douglas, 2003; Idemudia, 2012). This is a clear case of resource dependency with associated negative effects (Frynas, 2000).

2.3 The Constituent States of Niger Delta in Nigeria

The region in Nigeria designated as Niger Delta is where the oil production activities take place. This region covers a land mass of over 70,000 km^2. Although it comprises of only about one-tenth of Nigeria's whole territory, nearly all the oil in the country is produced from the region (Fagbohun, 2007). As it is shown in Figure 2.1 and 2.2, Niger Delta is located in the southern part of Nigeria and it extends from the Nigeria-Cameroon boundary in the east down to the Ogun-Osun states boundary in the west. In the North, the region is bounded by Ebonyi, Enugu, Anambra, Kogi and Ekiti states. The Atlantic Coast forms the general boundary in the South. Originally, Niger Delta region was comprised of six states, namely Cross-Rivers, Akwa-lbom, Rivers, Bayelsa, Delta, and Edo. However, the Niger-Delta Development Commission Act of 2000 brought Abia, Imo and Ondo states into the region. Therefore, the total number of states that make up the Niger Delta is nine, and the region cuts across over 40 different ethnic groups with an estimated 3000 communities (Idemudia, 2009a) among which about 800 are oil-producing host communities (Ugochukwu & Ertel, 2008), beside *nearby communities* that may be affected because of their proximity to oil production activities such as gas flaring (Eweje, 2006). Some of these communities are relatively too small to be treated as host community independently; and of course, new ones keep emerging (UNEP, 2011). The estimated pollution of the region stands at 41.8 million as at 2010 (National Bureau of Statistics, 2012).

Figure 2.2: Map of Niger Delta States

Source: https://www.google.co.uk/search?q=map+of+niger+delta+states

2.4 An Overview of Nigerian Oil and Gas Industry

In Nigeria, Shell Petroleum Development Company (SPDC), generally known as Shell, originally was known as Shell D'Arcy and later became Shell-BP, which was jointly financed by Royal Dutch/Shell Group of Companies and the British Petroleum (BP) Group on an equal basis (SPDC, 2013, online). The company discovered oil in commercial quantity in Oloibiri in the present Bayelsa State in 1956 (Frynas, 2000). Presently, SPDC is operating a Joint Venture Agreement (JVA), which involves Nigerian National Petroleum Corporation (NNPC), which holds 55%, Shell 30%, Total 10%, and AGIP 5% (SPDC, 2013, online). As it is further disclosed, the company has more than 6000 kilometres of pipelines, 87 flow-stations, 8 gas plants, and more than 1000 producing oil wells. Shell operates its oil production business on shallow water (i.e. onshore). It is the largest oil company in Nigeria producing together with joint venture (JV) partners about one million barrels of oil per day in average (SPDC, 2013, online).

Mobil Producing Nigeria (Exxon/Mobil) began operation in Nigeria in 1955 under the name Mobil Exploration Nigeria Incorporated until June 16, 1969 when it was incorporated as Mobil Producing Nigeria (Exxon/Mobil, 2013, online). They also operate under joint venture (JV) with NNPC (60%) and Exxon/Mobil (40%). The company does no onshore oil exploration and production, it concentrates with offshore operations. It is the second largest oil company in Nigeria with 90 offshore platforms and production capacity of 720,000 barrels of crude, condensate, and natural gas liquid (NGL) per day (Exxon/Mobil, 2013, online).

Other oil companies that joined the industry before 1980 are Chevron, Texaco, Total E & P and Nigerian AGIP Oil Company (NAOC). They are considered as the first-generation oil companies that entered the industry before 1980 while others referred as second-generation oil companies joined thereafter (Idemudia & Ite, 2006). The first-generation oil companies have been able to maintain their dominance in the industry by virtue of 'fist mover advantage' (Frynas, 2000). Although there are over 160 oil related companies doing business in Nigeria, only 6 are in JV with NNPC. These are Shell and Exxon/Mobil with ratios mentioned earlier; Chevron Nigeria Limited: NNPC (60%) and Chevron (40%); Nigerian AGIP Oil Company Limited: NNPC (60%), AGIP (20%), and Phillips Petroleum (20%); Elf Petroleum Nigeria Limited: NNPC (60%) and Elf (40); and Texaco Overseas Petroleum Company of Nigeria Unlimited: NNPC (60%) Texaco (20%) and 20% goes to Chevron (NNPC, 2013, online).

These data show that NNPC is the majority shareholder in all the first-generation oil companies in Nigeria.

2.5 The Nigerian Environmental Regulations and Sustainability

The natural environmental protecting agencies are referred to as business *regulatory stakeholders* who exert influence on the corporate natural environmental management through regulatory changes and enforcement (Huang *et al.,* 2009). This group of stakeholders include the legislative and executive arms of the government and the environmental regulatory agencies. They play the mandating roles on environmental management.

> In their "mandating" role, governments at different levels define minimum standards for business performance embedded within the legal framework. Examples include establishment of emission limit values for particular categories of industrial installations, or requirements for company directors to take particular factors into account in their decision-making (Fox *et al.,* 2002, p3).

Governments ensure compliance with such minimum standards and effect necessary amendments of the laws to suite the emerging issues. They also work with industries to co-develop future natural environmental protective standards (Henriques & Sadorsky 1999). They play a facilitating role by providing enabling grounds for business organisations to adopt CSR agenda that drives ES (Fox *et al.,* 2002, p3). The role of government in environmental management cannot be overemphasised. However, Hassan & Kouhy (2015) identify three factors that lead to unimpressive corporate efforts to effectively discharge their environmental responsibility in Nigeria as weak legal regulatory environmental stakeholders; non-recognition of host communities as powerful environmental stakeholders; and non-recognition of Nigerian public as legitimate environmental stakeholders.

Indeed, environmental regulation existed as window dressing before 1988 (Ngwakwe, 2009). Before 1988, Ministers in charge of Federal Ministries were saddled with the responsibility for environmental protection and enforcement in his ministry's area of influence (Eaton, 1997). For instance, Nigerian National Petroleum Corporation (NNPC), the state-owned petroleum company, was charged with the responsibility of protecting oil exploration and production environment. Therefore, the Inspectorate Division of the NNPC was responsible for environmental monitoring and enforcement in the petroleum industry (Eaton, 1997).

Paradoxically, the NNPC, which holds more than 55% shares in most of the oil companies under JV interest, was mandated to enforce the same oil companies to comply with the environmental protection laws that existed then. This demonstrates the inherent difficulty of regulating the environmental activities of oil companies from the onset.

In 1988, the then Federal Government of Nigeria (FGN) promulgated Decree No.42 of 1988, which made it a criminal offence for anyone to dump any harmful waste within the entire land mass and waters of the FRN. The decree came because of foreign company attempting to dump toxic waste in Niger Delta (Ngwakwe, 2009). This was followed by Decree 58 of the same 1988 that established Federal Environmental Protection Agency (FEPA). Section 4 of this decree gave FEPA the responsibility of protecting and developing the Nigerian environment. This was later amended by Decree No. 59 of 1992. It was this decree that created the first standards of environmental regulation in Nigeria (Ngwakwe, 2009). Such standards include; water and air quality, effluent limitation, ozone layer protection, noise level and hazardous substance control (Eaton, 1997; Ngwakwe, 2009). Furthermore, in 1999 the civilian government under President Olusegun Obasanjo created the Ministry of Environment, which absorbed the former regulatory agency, FEPA. This ministry took over the function of FEPA, which include, inter alia, the establishment of a national policy for environmental protection, environmental planning, data collection and publication, environmental standards settings and monitoring (Ngwakwe, 2009).

The contemporary move towards comprehensive laws that would regulate the activities in O&G industry is Petroleum Industry Bill (PIB) which has been in the making since it was drafted in 2008 and first presented in the legislative house in 2009. The bill includes among others the human development and CSR; and it 'sets out to establish a regulatory framework, institutions and regulatory authorities for the Nigerian petroleum industry' (Okoye, 2012, 464). The linking of business to development agendas in terms of CSR, according to Okoye, results in delays and uncertainty of the operationalisation of the bill when passed into law.

2.6 Stakeholders, Host Communities and the Impact of Oil Exploration and Production

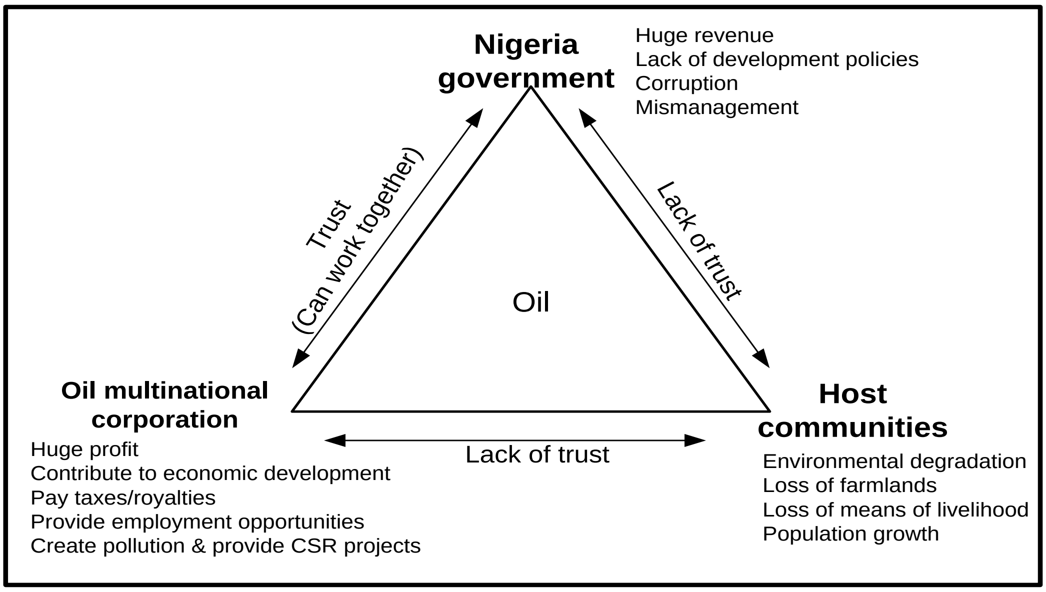
This section discusses the concept of host communities and possible ways the operational activities of oil multinational corporations could affect them.

2.6.1 Nigeria Oil Industry Stakeholders and Their Roles

Figure 2.3 presents key stakeholders and their role in O&G industry in Nigeria. There are three major stakeholders: Nigeria government, oil MNCs, and the host communities. Nigerian National Petroleum Corporation (NNPC) represents government as one of these three key stakeholders in Nigerian oil industry. The NNPC was established in 1977 and charged with the responsibility of regulating and supervising the oil industry on behalf of the Nigerian government (Idemudia, 2009a; Ite, 2004). As the Federal Government's proxy in the oil business, the NNPC holds an average of 57% in the joint venture partnership agreement with oil MNCs in Nigeria (Idemudia, 2009a).

Nigeria government generally plays the role of environmental regulatory stakeholder and it is responsible to enforce oil companies to comply with the environmental regulation (Huang, Ding & Kao, 2009). This regulatory responsibility is broader than what is expected from NNPC, which as mentioned, is in joint venture business with the oil companies. The Federal and State Ministry of Environment could also play the role of regulatory stakeholders. However, as pointed out in Shinsato (2005) the Nigeria government is not effective in enforcing compliance; therefore, environmental situation Niger Delta is left to deteriorate.

Figure 2.3: Major Stakeholders in Nigeria Oil Industry and Nature of Their Trust



Source: Eweje (2007, pp229-230)

In terms of trust, the Nigeria government and the oil companies can work together and trust each other in order to achieve their financial objectives (Eweje, 2007) as shown Figure 2.3.

However, as Eweje argues, the host communities do not trust the government and the oil companies because of many failed promises. This has impaired the relationship of the communities with the oil companies over the years. In recent times, communities appear sceptical on any promises made by oil companies and government to better the condition of the host communities whose environment has been seriously degraded. The low level of trust between the host communities and oil MNCs has degenerated to continued attack on production facilities and unfriendly attitude towards oil MNCs' personnel (Eweje, 2007).

Generally, environmental stakeholders are categorised into environmental risk perpetrators (oil companies), risks losers (communities), and risk managers, which include experts and researchers in this field that provide advice (English, 2000). The experts, in the study context, are those in state environmental regulatory agencies and researchers in faculties of Business, Social and Environmental Sciences. Government, experts and host communities are external stakeholders to the industry, which according to Kassinis & Vafaes (2006), industry depends on them for some resources. Other external stakeholders included in this study are environmental NGOs (Gao & Zhang, 2006).

2.6.2 Defining Host Communities in Nigeria Oil Industry

The concept of HCs is used by oil MNCs to delimit the scope of their CSR and determine, geographically, the location of their CSR initiatives (Idemudia, 2009a). These oil-producing communities form the main external business environment of the OMNCs operating in the region and they are generally referred to as host communities. These are the external stakeholders (Sarkis *et al.,* 2010) in the Nigerian oil industry. Of course, their consideration as stakeholders in the industry is relatively a new phenomenon; partly because by virtue of some decrees and laws, for example, the Land Use Act of 1978 and the 1969 Petroleum Act, the legitimate authority to enter into negotiation and grant concession for oil exploration to any international oil companies or local firms remains with the Nigerian State (Idemudia, 2009a).

This group of oil industry's stakeholder is divided into:

i. Producing host communities – these are communities in which onshore oil exploration takes place.

ii. Terminal host communities – these are coastal communities on whose territory port or terminal facilities are located sometimes because oil exploration takes place offshore.

iii. Transit host communities – these are communities through whose territory pipelines conveying oil pass (Idemudia & Ite, 2006; Idemudia, 2009a)

iv. Nearby communities – these communities neither have oil facilities nor do pipelines run through them but they may be affected by oil companies' operational activities because of their closeness to production facilities (Waritimi, 2012).

The fourth, *nearby community,* which may not necessarily be considered as HCs are those communities Waritimi (2012) refers to as the *impacted communities*; though they neither have oil wells and facilities nor do pipelines pass through them, but given their proximity to the exploration or production sites, they may be affected by the operations of oil companies. For instance, when there is oil spill on the local river, the river course may carry the oil to coastal communities that do not have oil facilities. Such oil-spills impact negatively on them. Besides, the impact of gas flare goes beyond the immediate communities where the actual gas flaring is done (Eweje, 2006). Given these widespread impacts of oil operations in Niger Delta, the term local communities (LCs) are used in this study to comprise of HCs and nearby communities, except where HCs are specifically referred to. This approach enables the study to accommodate all categories of community stakeholders in the region. These are the stakeholders who can affect or are affected by the achievement of the organisation's objectives (Freeman, 1984). In other words, they are those considered to be affected by the externalities of OMNCs operating in Niger Delta region.

2.6.3 Impacts of Oil Exploration and Production on LCs

When the minority is exploited simply for the enhanced benefit of a majority, the increased happiness of that majority is just part of the equation. It must be balanced not only against the unhappiness of the minority but also against the harm of injustice (Chryssides & Kaler, 1993, p96).

Oil production in Niger Delta yields more than 80% of the national revenue, however it creates adverse impacts on the well-being of the minority tribes in the region. The negative impacts are considered as the main source of conflict between oil companies and host communities (Frynas, 2000; Fagbohun, 2007; Babatunde, 2010). Of course, oil industry's environmental standards and risk awareness in the 1960s were lower and different compared to today. The communities are reflexively aware of the environmental risks associated with oil operation. Hence, two sets of impacts of oil companies' activities on local communities in Niger Delta – impact of oil exploration and impact of oil production – are examined.

2.6.3.1 Impact of Oil Exploration on the LCs

The environmental damages associated with oil exploration occur in the process of laying seismic lines. In some areas such as farmland and uncultivated bush, the effect of line cutting is rather insignificant and little evidence of seismic line is left after one year. In other areas like mangrove swamp it takes two to three years for the cut roots of the trees to recover, while it could take thirty years or more for mangrove trees to fully recover from line cutting (Frynas, 2000). Therefore, mention can be made of the destruction of several mangrove forests with associated species extinction, and destruction of complex animal communities (Fagbohun, 2007). Besides, during seismic survey explosives are detonated a few metres below the ground surface and such explosives crack walls of houses few yards from the site (Frynas, 2000). The impact of seismic survey on rivers is majorly on fishes and fishery related activities.

2.6.3.2 Impact of Oil Production on the LCs

The most serious environmental damages occur during oil production and they are associated with oil spills, gas flares, oily and other waste (Frynas, 2000). The oil companies in some cases attribute the incidence of oil spills to sabotage and oil theft by aggrieved youths in the oil producing region (Aroh, *et al* 2010). While this is not totalling rolled out, most of the oil spills in Niger Delta region are considered to be caused by corrosion and age of the oil facilities (UNEP, 2011; Amnesty International, 2013). The true condition of these aged facilities in most cases is known to the related company. For instance, in the case of Bodo, 'Royal Dutch Shell was told a pipeline had reached the end of its life years before it spilled up to 500,000 barrels of oil, according to court documents seen by the BBC' (BBC, 2014, online).

According to BBC,

> The emails, letters and internal reports submitted to a court in London show that senior Shell employees were concerned before the spill that Shell's pipelines in the area had reached the end of their lives and needed replacing to avoid danger to lives, the environment and the economy (BBC, 2014, online).

The Guardian (2011) further confirmed that that the oil spill in Bodo that started in September, 2008 from the 50-year-old trans-Niger pipeline was not stopped by Shell not until 7 November, 2008. As the paper adds, 'a month later, in December 2008, the same pipeline broke again in the same swamps. This time Shell did not send anyone to inspect or repair it until 19 February, 2009' (The Guardian, 2011, online). Figure 2.4 and 2.5 present aged and corrosion damaged facilities of an oil company in Bodo, Niger Delta. The report of Amnesty International (2013) clearly relates incidence of oil spills to poor nature of oil facilities.

Figure 2.4: External Corrosion of Oil Pipe in Niger Delta

Source: Amnesty International, (2013; p26)

Figure 2.5: External Corrosion of Bomu Flow Station in Gokana LGA

Source: UNEP Report (2011; p99)

According to UNEP (2011):

> 'Petroleum' originates from two Latin words: 'petra' meaning rock, and 'elaion' meaning oil. Hydrocarbons refer to chemical substances formed exclusively from carbon and hydrogen. Petroleum hydrocarbons are thus naturally occurring hydrocarbon substances and, depending on the length of the carbon chain, can occur in gas, liquid or solid form…. Liquid hydrocarbon found in nature is also referred to as crude oil. Crude oil consists of a complex mixture of hydrocarbons of various molecular weights (pp36-37).

The impact of petroleum hydrocarbon or what simply can be referred to as hydrocarbon or oil can be weighty and devastating. In examining the *impact on soil*, for example, UNEP (2011) points out that where there is a spill of heavy crude oil onto clay soil, the chemicals can remain within the soil for decades, altering its permeability, causing toxicity and lowering or destroying the quality of the soil. In such circumstances, the soil itself can become a source of pollution. Figure 2.6 presents the sample of soil in Bodo community, three years after oil spill. The people of Bodo have repeatedly asked Shell to clean up the oil, but it has not been cleansed (Amnesty International, 2011). The farming occupation of the LCs in such a situation is terminated and the communities' source of livelihood destroyed (Osaghae, 1995; Babatunde, 2010).

Figure 2.6: Soil Damaged by Oil Spill

Source: Amnesty International (2011; p22)

Looking at the *impact on water* UNEP (2011) discloses that the presence of mere traces of a highly toxic hydrocarbon, such as *benzene*, may render water unfit for human consumption. Even though hydrocarbon has poisoned the source of water supplies the affected communities still use the water for lack of alternatives (Fagbohun, 2007). In terms of fishing occupation, BBC report says oil pollution puts Niger Delta fishermen at risk (BBC, 2013).

On the *impact on vegetation* the report of UNEP (2011) discloses that hydrocarbons can come into direct contact with vegetation in many ways: through spillage onto roots, stems or leaves; through spillage onto soil; through dissolved hydrocarbons in the groundwater in the root zone of the vegetation; or via air surrounding the vegetation. The result is always a total destruction of the vegetation and related ecosystem if the oil is not cleansed. Figure 2.7 shows Sivibilagbara swamp in Bodo about a year after 2008 oil spill. As put forth by Nwilo & Badejo (2001):

> Oil spillage in Nigeria occurs as a result of sabotage, corrosion of pipes and storage tanks, carelessness during oil production operations and oil tankers accidents. In Nigeria, fifty percent (50%) of oil spills is due to corrosion (see Figure 2.3 and 2.4), twenty eight percent (28%) to sabotage and twenty one percent (21%) to oil production operations. One percent (1%) of oil spills is due to engineering drills, inability to effectively control oil wells, failure of machines, and inadequate care in loading and unloading oil vessels (p1).

Figure 2.7: Sivibilagbara Swamp in September 2009.

Source: Amnesty International (2011; p30).

The UNEP, (2011) report also presents a frightening *impact of hydrocarbon on health* and affirms that:

> …dermal exposure can lead to skin redness, oedema, dermatitis, rashes and blisters; inhalation exposure can lead to red, watery and itchy eyes, coughing, throat irritation, shortness of breath, headache and confusion; and ingestion of hydrocarbons can lead to nausea and diarrhoea (p40).

In addition, WHO (2010) indicates that human exposure to benzene has been associated with a range of acute and long-term adverse health effect and diseases, including cancer and aplastic anaemia.

With the expansion of oil production in the region, the incidence of oil spills has significantly increased. Approximately twenty-five percent of the oil spilled into freshwater swamps and sixty-nine occurred off-shore (UNDP Report, 2006). This has greatly polluted water, which is a source of life to the people of the region, in terms of fishing occupation and normal daily usage (Babatunde, 2010). The Niger Delta ecosystem is therefore subjected to man-induced changes and is seriously threatened by increasing environmental deterioration. The aquatic ecosystem of the region faces increasing ecological and toxicological problems from the petroleum pollutants released into water course (John & Okpokwasili, 2012).

Apart from pollutants due to oil spills channelled into water, canalization and wastes discharged into freshwater swamps and sea are other common sources of oil production environmental pollution. In an attempt to shorten travel time and improve access to oil fields and production facilities, many oil companies have constructed canals that in some cases have caused salt water to flow into fresh water zones thus destroying freshwater ecological systems (Emoyan *et al.,* 2008b). Indeed, petroleum hydrocarbon discharge into water has caused serious damages in Nigeria Delta environments. For instance, an impact assessment of the 1983 Oshika oil spill confirmed the death of floating and submerged aquatic vegetation especially water lettuce, crabs, fish and birds (Powell & White, 1985; Emoyan *et al.,* 2008b).

Figure 2.8: Pipelines and Gas Flare in Okirika LGA of Rivers State

Source: UNEP, 2011; p35

In terms of gas flare (see Figure 2.8), Nigeria is rated high in flaring of natural gas and this has greatly polluted the air (Emoyan *et al.,* 2008a&b). Global warming, destruction of natural species, and acid rain and its impact on corrugated roofing sheet are some of effects of gas flare. The need to institute adequate controlling and monitoring mechanisms in Niger Delta environment cannot be overemphasised. Accountability procedure is proposed as a viable tool that would make oil MNCs to be committed to ES approach to development.

Table 2.1: Summary of Potential Environmental Impact of Oil Production Activities

Production Activity	***Potential Environmental Impact***
All activities	• Loss of vegetation/arable land • Hydrological changes • Disturbance of communities/flora/fauna • Waste pits in the field • Oily waste burned in the flare pit
Well operations	• Soil, water pollution • Disturbance of communities/flora/fauna
Flowlines, pipelines	• Soil, water pollution • Disturbance of communities/flora/fauna
Flowstations	• Ambient air quality • Acid rain • Soot/heavy metal deposition • Greenhouse effect

Terminals	• Pollution/fire affecting flora • Soil/surface water pollution • Disturbance of communities/flora/fauna • Soil/water surface pollution • Disturbance of communities/flora/fauna • Poor ambient air quality • Waste problems • Soil pollution

Source: Frynas (2000; p163)

Table 2.1 presents the summary of potential impact of oil production in Niger Delta. It is evident from the foregoing that environmental situation in the region creates a serious concern. As the empirical study of Babatunde (2010) concludes, the environmental degradation due to oil production activities has caused a significantly decline in farming and fishing occupation of the HCs. It is evident therefore, that oil production activities have engendered resource curse phenomenon in the region (Ite, 2005; Idemudia, 2012), a situation where what supposed to bring prosperity to the LCs has yielded several socio-economic problems.

2.7 Corporate Social Responsibility Approaches of OMNCs in Nigeria

Oil companies' CSR approach has evolved through three main phases over time (Idemudia, 2009a). During the first phase, Idemudia argues that the aim was to keep communities at arms-length as much as possible while securing local right-of-way (ROW) to mineral resources. It was community assistance (CA) approach, which was concerned with *giving of things* such as water and sanitation, health care, and roads to the host communities near Shell's exploration facilities that was adopted (Adomokai & Sheate, 2004; Ite, 2004). It was *ad hoc* development project that focused on what Shell felt to be the need of the communities (Eweje, 2007). This was a 'top-down' approach to development and was generally considered to be ineffective though other oil companies adopted similar approach (Idemudia, 2009a). This approach to HCs' development which placed emphasis on corporate philanthropy is the most basic level of CSR, and OMNCs practised this from 1960 to 1997 (Ite 2004). That is, before the effect of early 1990s protest by Ogoni communities.

It needs be said that in the Nigeria oil industry, what seems to spur up noticeable CSR actions of oil companies are radicalism and external pressure from stakeholders. OMNCs are often confronted by the growing power of key stakeholder groups and their complex networks (Boele *et al*., 2001a). Given such pressure some of the OMNCs started taking CSR actions. For instance, Shell has developed explicit models such as its 'Sustainable Development

Management Framework' and the associated 'Road Map', which are designed to build in the stakeholder dimension into their CSR decision making (Boele *et al*., 2001a, p124). The development of this framework as they point out is informed by the significant conflict between Shell and the Movement for the Survival of the Ogoni People (MOSOP) in middle 1990s.

The civil society organisation, MOSOP, and other Ogoni activists on several occasions have drawn the attention of the FGN and Shell to the devastating impacts of oil exploration and production activities in the region but there has never been any serious response. When there was no satisfactory response, MOSOP under the leadership of Ken Saro-Wiwa, the environmental and human rights activist, organised the first massive 300,000 people peaceful protest against Shell on January 4, 1993, which was declared Ogoni Day (Boele *et al.*, 2001a). However, the protest did not draw Government, Shell, and MOSOP to a dialogue table as expected it rather raised tensions and Shell withdrew its workers from Ogoni and Nigerian soldiers were deployed to the Ogoniland and about 1000 people were killed, and women raped in the crises (Idowu, 1999; Boele *et al.*, 2001a).

> Mr. Ken Saro-Wiwa, along with eight other MOSOP members were arrested and charged with the murder of the traditional chiefs belonging to pro-government group in the Ogoni region. The murders occurred during a bloody clash in May 1994 between Ogoni activists and Federal Government soldiers. On October 31, 1995, a Federal military tribunal sentenced them to death. On November 10 1995, the Nigerian Federal Government hanged Ken Saro-Wiwa and eight others, in Port Harcourt. Ken Saro-Wiwa’s final words before he was hanged were “Lord, take my soul, but the struggle continues” (Nwilo & Badejo, 2001, p4).

Indeed, the incidence of Ken, coupled with unconcerned disposition of government towards the environmental issues in the region and the initial hesitation of oil companies to think about their social and environmental responsibility, created a volatile atmosphere characterised by regular protest and conflict in the region (Boele *et al*., 2001a; Eweje, 2007; Idemudia, 2009a).

In late 1990s, as a response to increased community protest over environmental degradation, limited employment, loss of livelihood and widespread human rights violations, OMNCs began to adopt the second phase of the strategy, which was community relations strategy (Idemudia, 2009a). This second phase, according to Idemudia, was based on the acceptance of the principles of CSR by oil companies and was defined as the community development model for engagement with HCs. The problems identified in this model, however, were poor community participation, lack of project sustainability and the tendency for community development project to spur up intra- and inter-community violence due to competition for such projects; and this brought a shift towards the third phase: the corporate–community involvement strategy (Idemudia, 2009a).

The third phase was based largely on the ideals of partnership because of the need to reduce the skyrocketing cost of community relations and address the gaps associated with previous strategies (Idemudia, 2009a). Partnerships with community groups and NGOs are regarded as useful vehicles for building local community support, strengthening the company brand and reputation, and gaining access to local opinion leaders and decision makers in government and politics (Esteves & Barclays 2011). Moreover, partnerships also served as a mechanism through which companies act as agents for sustainable communities, given that the participatory capacity-building activities can make communities to make informed choices and also learn to take control of their development needs, thus reducing dependency on mining operations (Labonne, 2002; Esteves & Barclays 2011). Based on this line of thought, Idemudia (2007a) argue that partnerships be powerful mechanisms for building constructive relationships between oil companies and local communities and thus contribute to SD.

Idemudia (2007a) critically examines different community development partnerships initiatives undertaken by Exxon/Mobil and Total within their corporate-community relations strategy in Niger Delta. Idemudia surveyed 160 households in four villages in Akwa Ibom state, one of the nine States in Niger Delta. Based on descriptive statistical technique the findings suggest that partnership initiatives that are ‘bottom up’ have more positive impact on host community development than those that are ‘top-down’ in nature. However, Idemudia concludes that neither bottom-up or top-down CDPs’ approach has had any real impact on how the *core business activities* of OMNCs are undertaken or have they ameliorated the negative social and environmental impact of oil production on HCs. The indication is that the sources of environmental pollution which is strongly connected to core business activities of these companies are not addressed in the CSR policy. This seems to be a key issue.

2.8 Chapter Summary

This chapter provides the contextual background to the study. It elucidates the environmental and social phenomena associated with the activities of oil exploration and production in Niger Delta. It started with a brief history of Nigeria and States that constitute the Niger Delta region. The O&G industry was overviewed. Such overview discloses Nigeria as a rentier-State, whose petroleum oil forms the main source federal revenue (Idemudia, 2010). This dependency on oil products and government JV with oil companies through NNPC give insight into why government often refuse to support LCs when in conflict with OMNCs (Fagbohun, 2007).

Furthermore, the chapter presents the characteristic of the legislative framework as related to OMNCs' environmental behaviour. It discloses that government regulatory agencies have failed to enforce environmental standards compliance in the country. Besides, the chapter discusses the environmental impacts of oil exploration and production on LCs. It also explicates various CSR approaches, which OMNCs have adopted over the years. These approaches apparently tackle social issues, whereas environmental issues that give rise to these social issues are not given adequate attention by OMNCs. The CSR approaches are seen in the light of obtaining right-of-way oil resources instead of addressing the fundamental issue, which is environmental degradation, which contributes to the increased poverty in the region (Boele *et al*, 2001b; Idemudia, 2009b). Although, the extant literature on CSR initiatives in Nigeria indicates that OMNCs have failed to address the environmental issues in the region, there are indications that some factors can drive the use of CSR initiatives to improve ES. Therefore, in the next chapter literature as related to this assertion are examined.

CHAPTER 3

LITERATURE REVIEW

The subject matter of research must only include a group of phenomena defined beforehand by certain common external characteristic and all phenomena which correspond to the definition must be included (Emile Durkheim, 1858 – 1917).

3.1 Introduction

The previous chapter explicates the Niger Delta social and environmental phenomena associated with oil exploration and production. The role of government in enforcing compliance with environmental laws is considered unacceptable. The OMNCs' CSR initiatives mainly focus on redressing socio-economic needs with no serious attention given to reducing environmental impact of oil business. Studies that explore the factors behind corporations' adoption of sound environmental policies in developing countries are scarce. Moreover, studies on determinants of corporate responsiveness to environmental issues, particularly in Nigeria, are also scarce. This necessitates the general review of literature on CSR in relationship with sustainable development.

Therefore, this chapter discusses the literature related to corporations' environmental performance with attention on what motivates firms to use CSR policy to address social and environmental issues. The review begins with discussion of the CSR, its origin, conceptualisations and key drivers of the policy. It is followed by environmental ethics as related to sustainable development approach adopted by business corporations. The conceptual perspectives on CSR initiatives contributions to sustainability are reviewed with the aim of understanding the plausible perspectives that could make significant contribution to ES in developing countries' context. The empirical studies that focus on determinants of CSR contribution to ES is examined in the later part of this chapter. The last section of the chapter presents the chapter summary. Table 3.1 displays the summary of key literature used in the study.

Table 3.1: Summary of key literature on CSR, CES and Accountability

Conceptual/Background information on CSR

- **Carroll, 1979**
- **Blowfield, 2004**
- **Lantos, 2001**
- **Idemudia, 2008**
- **Lee, 2008**
- **Schwartz & Carroll, 2003**
- **Frederick *et al.*, 1992**
- **Silberhorn & Warren, 2007**

Background information on CES

- **WCED, 1987**
- **Simon *et al.*, 1993**
- **Baron, 2006**
- **Roome, 1992**
- **Stenmark, 2002**
- **Thornton & Beckwith, 2004**
- **Crane & Matten, 2007**

Empirical issues in drivers of CES

Key driver	**Authors**
Environmental visibility	Bowen, 2000
Formal regulatory pressure (Government)	Henriques & Sadorsky, 1996 Frynas, 2012 López-Gamero *et al.* 2010 Christman, 2004 Murillo-Luna *et al.*, 2004
Informal regulatory pressure (neighborhood & community)	Sarkis *et al.*, 2010 Henriques & Sadorsky, 1996 Kassinis & Vafaes, 2006
Economic and financial performance	Moneva & Ortas, 2010 Cochran & Wood, 1984 Russo & Fouts 1997 Orlitzky *et al.*, 2003 Tsoutsoura, 2004
Environmental risk awareness	Sharma & Nguan, 1999 Wakefield *et al*, 2001 Gadenne et al., 2009
Community (re)action to environmental risk	Wakefield *et al.*, 2001
Corporate self-regulatory pressure	Anton *et al.* 2004
Corporate reputation	Brammer & Pavelin, 2006
Intention	Cordano & Frieze, 2000
Ethical & normative purpose	Cetindamar & Husoy, 2007 Harjoto & Ho, 2015
Proactive commitment	Henriques & Sadorsky, 1999
Employee accountability	Chinander, 2001

Background information on accountability

- **Unerman & O'Dwyer, 2007**
- **Gray *et al.*, 1996**
- **Aras & Crowther, 2009**
- **Schedler, 1999**
- **O'Neil *et al.*, 2007**
- **Gray & Bebbington, 1993**

Theoretical issues

Theory	**Authors**
Stakeholder	Freeman, 1984; Clarkson, 1995 Mitchell *et al.*, 1997; Frooman, 1999 Ruf *et al.*, 2001
Social Contract	Donaldson and Dunfee, 1999 Deegan, 2007; Conry, 1995 Donaldson & Preston, 1995 Owen & Kemp, 2013
Accountability	Frink & Ferris, 1998; Tetlock, 1999 Schedler, 1999; Folger & Cropanzano, 2001 Gray *et al.*, 1996; Frink & Klimoski, 2004 Gray *et al.*, 2014
Reasoned action	Ajzen, 1991; Kalafatis *et al*, 1999 Fishbein & Ajzen, 2010 Thompson & Thompson, 1996

3.2 Corporate Social Responsibility

3.2.1 The Origin of CSR

Although the subject of social responsibility received some attention prior to the 1950s, it was the publication of Bowen's book, *Social Responsibilities of Businessmen,* in 1953, with emphasis on businesspeople's social conscience, not necessarily the companies they operated, that created a significant awareness of business organisation's impact on society (Carroll, 1979; Valor, 2005; Lee, 2008). The concept of social responsibility is of immense important to business organisations (Buchhoiz & Rosenthal, 1999). Emphasis is laid on businesspeople's conscience given the argument that business corporation is not human and as such has no conscience to detect what is good or bad (Freeman, 1979). In those days corporations, especially in United States, were criticised for being too big, too powerful, and antisocial; and they were also accused of engaging in anticompetitive practices (Frederick *et al.,* 1992).

Therefore, the years 1960 to 1970 were characterised with some significant social changes that affected business and its management (Buchhoiz & Rosenthal, 1999). Behind these changes were numerous legislations – Textile Fiber Products Identification Act of 1958, Fair Packaging and Labelling Act of 1960, Equal Pay Act of 1963, National Traffic and Motor Safety Act of 1966, National Environmental Policy Act of 1969, Truth in Lending Act of 1969, Clean Air Act of 1970 and so on – enacted to regulate conducts of businesses and to protect employees and consumers in United States (Lee, 2008). Such changes were due to the general concern about civil rights for minorities, equal rights for women, protection of the physical environment, safety and health in workplace, and consumers related issues that had serious impacts on business organisations (Buchhoiz & Rosenthal, 1999; Carroll & Shabana, 2010).

Besides, in the UK, where industrial revolution began, Owen (1816 cited in Aras & Crowther, 2009) demonstrates dissatisfaction with the assumption that only internal effects of business actions need be considered by corporations while the external environment was a free resource to be exploited at will. Owen puts his beliefs in practice by including in his sphere of industrial operations the provision of housing for his workers at New Lenark, Scotland (Aras & Crowther (2009). They further argue that throughout the history of modernity there is evidence that the self-centred approach towards organisational activities was not ethical.

CSR already implies inter-connectedness between economy and society (Brucksch & Grünschloß, 2009). The concept from the inception was a welcome development to some people. Those who were displeased with unethical and antisocial conduct of businesspeople applauded the concept while others opposed it (Frederick *et al.*, 1992; Buchhoiz & Rosenthal, 1999). Buchhoiz & Rosenthal (1999, p304) summarise the argument of the proponents of CSR as:

- Business must accommodate itself to social change if it expects to survive.
- Business must take a long-run view of self-interest, and help to solve social problems so as to create a better environment for itself.
- Business can gain a better public image by being socially responsible.
- Government regulation can be avoided if business can meet the changing social expectations of society.
- Business has enormous resources that would be used in solving social problems.
- Social problems can be turned into profitable business opportunities.
- Business has a moral obligation to help to solve social problems that it has created or perpetuated.

The early proponents of the CSR concept, according to Buchhoiz & Rosenthal. (1999), used the ethical and moral dimension to argue that 'business has a moral obligation to help to solve social problems that it has created or perpetuated' (p304). This perspective is cardinal in this study given the connection of MNCs to global inequality, injustice, and environmental issues associate with their business activities (Utting, 2008; Emoyan *et al.*, 2008a).

3.2.2 Definition of CSR

The starting point of the CSR discourse was the necessity of businesspeople operating their business with social conscience (Bowen, 1953). Therefore, Bowen defines CSR as 'the obligations of businessmen to pursue those policies, to make those decisions, or to follow those lines of action which are desirable in terms of the objectives and values of our society' (Bowen, 1953, p6). This implies that the concern of Bowen was for businesspeople to be conscious of the potential negative impacts of their business proposals on the society. He contends that the position of great influence and the far-reaching scope and consequences of their decisions *obligate* them to consider social consequences of their decisions and shoulder the responsibilities (Lee, 2008).

Indeed, social responsibility is a nebulous idea and, hence, is defined in various ways by corporate managers and academics (Carroll, 1991). Davis, (1960) defines it as 'businessmen's decisions and actions taken for reasons at least partially beyond the firm's direct economic or technical interest' (p70). From Davis point of view, decision taken as social responsibility should not be wholly based on direct economic interest the firm stands to benefit.

About a decade ago, European Commission (2002) defined CSR as *a concept whereby companies integrate social and environmental concerns in their business operations and their interaction with their stakeholders on a voluntary basis.* Specifically, Commission of the European Communities, identifies the need for companies to consider, voluntarily, the effects of their business operations on the society, environment and their stakeholders. Indeed, CSR represents the idea that companies should voluntarily consider the social and environmental impacts of their actions on both internal and external stakeholders of the firm (Amaeshi *et al.*, 2016). However, the institutional forces of capitalism propelling forward business, the corporate reform, and the ideological matrix of economic rationality has transposed most gestures of voluntary perspective of CSR – including sustainability and stakeholder dialogue – into something of a farce (Fleming & Jones, 2013).

Another interesting definition is that of World Business Council for Sustainable Development (WBCSD) (2000) which states that *'corporate social responsibility is the continuiAndonovang commitment by business to behave ethically and contribute to economic development while improving the quality of life of the workforce and their families as well as the local community and the society at large'* (p8). Again, ethical component of the responsibilities is encapsulated in the definition and the need for corporations to contribute to sustainable economic development is clearly identified. Moreover, corporate *commitment* to environmental issues is considered as a necessary step towards achieving a significant level of ES. However, it is doubtful whether *business can be committed to social/environmental issues on moral basis voluntarily* (Fleming and Jones, 2013).

Specifically, there is a consensus among large business corporations who are members of WBCSD that CSR should be defined in three dimensions: the financial, the social and environmental (Watts & Holme, 1999; Boele, Fabig & Wheeler, 2001b). Although social issue is touched in this study more attention is given to environmental dimension of the CSR. The impression is that *financial is concerned with the use of CSR initiative in pursuing strategic business decision that could increase financial performance* (Lantos, 2001); *social perspective of CSR focus on mitigating the impact of business externalities on society* (Buchhoiz & Rosenthal, 1999); while *environmental dimension focus on using CSR policies to manage environmental issues relating to business* such as oil spills (Frynas, 2012). The two perspectives, social and environmental, are relevant in this study though the later dominates the discussion.

Furthermore, Frederick *et al*, (1992) define *CSR as a principle stating that corporations should be accountable for the effects of any of their actions on the community and environment.* These are actions that could injure the community and the environment as a whole. The implication is that business should be sensitive to potential harms of its actions on various stakeholder groups (Freeman, 2001). Simon *et al.* (1993) argue that it is firms' responsibility to carry out their *negative injunction duty*, which demands that corporation should avoid causing injury during its business operation, and where injury is caused it should correct it. Of course, '*full accountability may be more about what an organisation cannot do than what it has done'* (Gray *et al.*, 2014).

Therefore, the researcher finds this definition relevant to this study because ***accountability*** by multinational corporations (MNCs) ***for their actions on the community and environment*** is embedded in CSR construct (Idemudia, 2008); and such accountability would invariably influence their ***continuous commitment*** to social/environmental issues emphasised in WBCSD definition. In other words, CSR principles enable the MNCs to critically analyse the effects of their operational externalities on the community and environment; and thus, determine the CSR initiatives which could best compensate or restitute the damaged environment and community-corporate relationship. It also points to the fact that ***corporate responsibility initiatives*** in this context cannot be viewed as philanthropic or charitable activities but as ***obligations*** (L'Etang, 1994) given the potential effects of any of their actions on the local community and environment (Frederick *et al*, 1992).

Moreover, Frederick *et al*, (1992) definition recognises the communities (stakeholders) affected by any of the corporate actions and enable them to, independently, assess the level of damages (temporal and/or persistent) that could be traced to the corporate business actions; and thus, legitimately demand for corporate accountability for such actions. Such accountability, though could be achieved through CSR initiatives does not necessarily portray charitable duty, rather it appears to take the form of compensatory and impact mitigation obligations, and proactive steps taken to prevent further pollution (Baron, 2006) since it is an attempt to pay for the negative effects of any of the corporate actions on the community and environment (Frederick *et al*, 1992).

3.2.3 Conceptual Discourse of CSR

To explain the CSR concept, Carroll (1979) develops a four-part framework that categorises various responsibilities that society expects businesses to assume. Based on these four categorises of responsibilities, which he argues that each one is but a part of the total social responsibility of business, he states that 'the social responsibility of business encompasses the economic, legal, ethical, and discretionary expectations that society has of organisations at a given point in time' (p500). Besides, Carroll (1991) develops a pyramid of CSR using Carroll (1979) elements of a four-part framework that categorises responsibilities that society expects businesses to assume. He replaces discretionary with a new category referred to as philanthropic responsibility, the term discretionary is rather used in describing philanthropic responsibility. Therefore, philanthropy is more discretionary or voluntary on the part of businesses even though there is always the societal expectation that businesses would contribute their resources towards improving the quality of life of the people in the community (Carroll, 1991; Idemudia, 2007b). This means that business is not under any obligation to meet the society's expectations; it rather does that if it wishes.

However, L'Etang (1994) identifies a terminological confusion in the use of the term 'philanthropy' as a category of corporate responsibilities, and argues that the terms 'corporate responsibility' and 'corporate social responsibility' suggest that these are activities a company ought to carry out from a sense of duty or obligation; whereas *corporate philanthropy 'suggests a voluntary action done out of generosity and beneficence, a charitable act'* (p117). Therefore, L'Etang (1994) differentiates charity from CSR by arguing that 'charity cannot be demanded, though the recipient may be very grateful for it because there cannot be a right to charity which, though praiseworthy, depends upon benevolence and altruism' (p117).

Moreover, Lantos (2001) argues that ‘Carroll’s discretionary or philanthropic responsibility – “giving back” time and money in the form of voluntary service, voluntary association, and voluntary giving – is where most of the controversy over the legitimacy of CSR lies’ (p5). The impression is that if the CSR initiative is discretionary and/or philanthropic, it carries no corporate responsibility neither is there any corporate obligation to perform it. This portrays a disconnection of corporate philanthropy with corporate responsibility. It means that if the corporate well-being services rendered to stakeholders is on discretionary and/or philanthropic grounds it carries no responsibility (L’Etang, 1994) and in the absence of *corporate responsibility* there is no *corporate accountability*, since accountability is an *instrument* used in assessing responsibility (Crane & Matten, 2007); and *accountability is a concept that stems from acceptance of a responsibility* (Unerman & O’Dwyer, 2007). The responsibility means that executives are held accountable for their actions. They are accountable for:

(1) Actions performed that go beyond the corporation's domain of authority or permissibility.

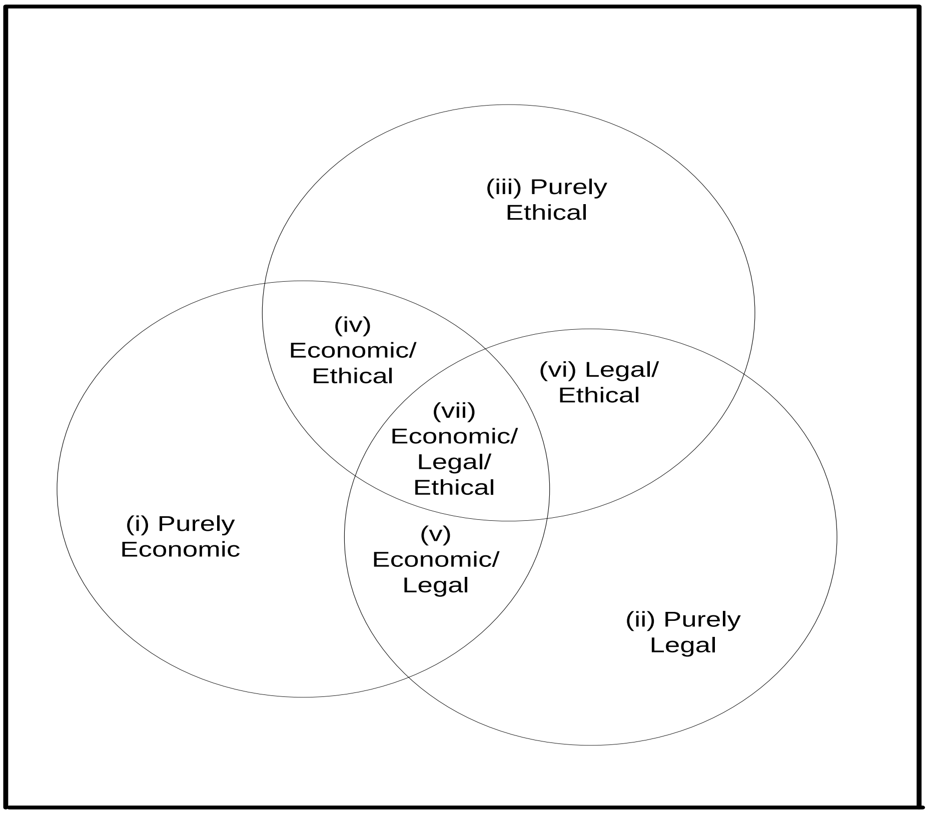
(2) Non-performance of acts within the corporation's domain of responsibility.

(3) Inferior performance of acts within the latter domain (Moir, 2001, p18).

The accountability implies rendering accounts for *ultra vires* (actions beyond legal authority), non-performance of responsibility, and deficient performance of responsibility. Being accountable could be judged by CSR policies and practices (Demirag, 2005). Therefore, to say anything about accountability we need to understand responsibility because accountability is derived from responsibility (Gray *et al,* 2014).

Given the critiques on four-part framework of Carroll (1979), which carries discretionary category of responsibility, and the pyramid of corporate social responsibility of Carroll (1991), which carries philanthropic domain of responsibilities, Schwartz & Carroll (2003) develop a three-domain model presented in Fig. 3.1, which puts together the economic, legal, and ethical domain in an overlapping Venn diagram. In this model “philanthropy (altruistic) responsibility” is *subsumed* under the ethical and/or economic domain. It is not considered as a responsibility given that it is a mere discretionary free-will offering which attracts no duty or social responsibility of business (L’Etang, 1994).

Figure 3.1: The Three-Domain Model of Corporate Social Responsibility



Source: Schwartz & Carroll, 2003, p509

Hence, Schwartz & Carroll (2003) argue that ‘the economic domain of this three-domain model captures those activities which are intended to have either a direct or indirect positive economic impact on the corporation in question’ (p508). This definition of the economic domain of responsibility broadens the whole concept of CSR and establishes a platform for managers of firms to adopt CSR on economic grounds and use it in making strategic business decisions (Schwartz & Carroll, 2003). From the model, they argue that the legal category of CSR pertains to the business firm's responsiveness to legal expectations mandated and expected by society in the form of federal, state, and local jurisdictions, or through legal principles as developed in case law. On the other hand, the ethical domain of the three-domain model ‘refers to the ethical responsibilities of business as expected by the general population and relevant stakeholders. This domain includes responsiveness to both domestic and global ethical imperatives’ (p509).

In Carroll (1991) this ethical component of corporate social responsibility is elaborated. He argues that:

> It is important to perform in a manner consistent with expectations of societal mores and ethical norms; it is important to recognize and respect new or evolving ethical/moral norms adopted by society; it is important to prevent ethical norms from being compromised in order to achieve corporate goals; it is important that good corporate citizenship be defined as doing what is expected morally or ethically; it is important to recognize that corporate integrity and ethical behaviour go beyond mere compliance with laws and regulations (p41).

From Bowen (1953) definition, normative approach (ethical and moral dimension) was used in presenting the need for CSR from the inception. As the theory of CSR develops, Silberhorn & Warren (2007) indicate that economic and legal responsibilities of Carroll's (1991) four-part model of CSR are converging to form a minimum threshold of CSR while ethical responsibilities are gaining importance. The adequacy of philanthropy in the model, as a category of corporate responsibilities, is controversial and confusing (Lantos, 2001). This implies that the concept of social responsibility is, fundamentally, an ethical concept that deals with the behaviour and policies businesses ought to adopt in relating with their stakeholders (Buchhoiz & Rosenthal, 1999).

3.3 Environmental Ethics and SD

Before going into discussion of environmental ethics and its relationship with SD, it is necessary to define environment and how it is used in this study.

3.3.1 Definition of Environment

In the context of the UK law, environment is defined as consisting of land, air, and water (Thornton & Beckwith, 2004), and this is physical or natural environment However, the European Community Treaty as discussed in Thornton & Beckwith (2004) indicates that the scope of the environment extends to human beings, natural resources, land use, town and country planning, waste and water. This captures all areas of environment including fauna and flora, which are part of the natural resources, and climate. Business activities often have an impact on this environment (Blair & Hitchcock, 2001). In other words, business activities generate harmful substance that pollutes environment. In its definition, Pollution Prevention Control states that pollution refers to:

> Activities which may be harmful to human health or the quality of the environment, cause offence to any human senses, result in damage to material property, or impair or interfere with amenities and other legitimate use of environment (Thornton and Beckwith, 2004).

3.3.2 Environmental Ethics

In generally terms, ethics is the study of moral judgements about the rightness of actions and rules of behaviour (Baron, 2005). It is an inquiry into morality of actions taken by individual or group of people (Chryssides & Kaler, 1993). The morality of actions of individuals, group of people or corporations as related to environment informs the development of environmental ethics. Specifically, environmental ethics is defined as '*the systematic and critical study of the moral judgements and attitudes which (consciously or unconsciously) guide human beings in the way they behave towards nature*' (Stenmark, 2002, p15). Dower (1989, p11) defines it as 'a set of principles, values or norms relating to the ways in which we interact with our environment'. The environment in this context is taken to mean physical or natural environment.

As Dower (1989) argues, this branch of ethics comes as a response to a range of environmental problems, which collectively lead to gradual environmental degradation. Indeed, environmental crises, such as species extinction, the depletion of ozone layers and global warming, air and water pollution, deforestation, and land degradation, are some of the most important problems currently facing our society and they threaten the well-beings of both the presently existing and future humans (Elliot, 1995; Kortenkamp & Moore, 2001). These crises gain better understanding when viewed through actual and potential danger they pose on present and future generation. Some environmental laws have been established and human rights canon propounded; all in effort to enable prudent corporate behaviour in business environment. In most cases the violation of certain rights such as right to clean air, clean water, and property (in terms of farm land) by firms has caused a serious concern among the stakeholders and informed individuals and non-governmental organisations (NGOs) around the world. It needs be said that most of those whose rights are often violated are the poor, minority and the less privileged. As Baron (2006) points out:

> The environmental justice movement began with concerns raised by activists that the poor and the minority were disproportionately affected by pollution. Since housing

> prices were naturally lower near industrial areas, low-income individuals tended to disproportionately locate in those areas. Concern for their well-being centred not only on issues of poverty and opportunity but also on the effects of pollution on their health (p753).

Based on the attitudes of human beings toward the environment, the environmental ethics is categorised into two main groups – ecocentric and anthropocentric environmental ethics (Gagnon Thompson & Barton, 1994). In environmental discourse, anthropocentric environmental ethics and ecocentric environmental ethics are sometimes referred to as human-centred environmental ethics and non-human-centred environmental ethics, respectively (Elliot, 1995). These two categories are therefore discussed briefly. The point of view of ecocentric ethicists, also known as *preservationists,* is that nature has moral consideration given its intrinsic value, which is value aside from its usefulness to humans; and therefore, should be preserved (Stenmark, 2002). On the other hand, anthropocentric ethicists, also known as *conservationists*, consider humans to be the most important form of life; other forms of life are important only to the extent that they affect humans or can be useful to humans.

Against this anthropocentric backdrop, Stenmark (2002) argues that all the environmental policy documents accept the aim that the development of society must be sustainable. Hence, Brundtland Commission Report, *Our Common Future* (WCED 1987) on issue of ES and economic development describes a sustainable economic development as *'development that meets the needs of the present without compromising the ability of future generations to meet their own needs'* (WCED 1987, p43). The rationale of the anthropocentric argument is that it is human well-beings that is the ultimate goal of all environmental and development policies; and 'they are entitled to healthy and productive life in harmony with nature' (Stenmark, 2002, p21).

3.4 ES and Development Paradigm

Over the years, sustainability, which is a concept coined out to address diverse impacts of business on planetary, ecological or social system, is catching the attention of governments, business corporations, pressure groups, and academics (Crane & Mattenm, 2007; Gray *et al* 2014). Crane & Mattenm (2007) name some of these negative impacts of business on society as:

> The environmental pollution caused by production, transportation, and use of products such as cars, refrigerators, or newspapers; the ever-increasing problems of waste disposal and management …; the devastating consequences for individuals and communities as a result of plant closures …; and erosion of local cultures and environments…. (p21).

The term sustainability has its root in the word 'sustain'. Webster's New International Dictionary gives the meaning of the word *sustain* as "to cause to continue (as in existence or certain state, or in force or intensity); to keep up, especially without interruption, diminution or flagging, to prolong". Based on this, one could understand sustainability in its simplest form as keeping something going. This implies that physical environment should be sustained while pursuing economic growth. Indeed, there is a convincing need to strive after economic growth; however, Stenmark (2002) argues that such growth should contribute to the satisfaction of basic human needs and that the growth should be achieved in an ecological sustainable way. This makes the concept of sustainability central in product life cycle.

Although there is no universally accepted definition of corporate sustainability, some guiding definitions are provided in literature. Corporate sustainability is defined as 'adopting business strategies and activities that meet the needs of the enterprise and its stakeholders today while protecting, sustaining, and enhancing the human and natural resources that will be needed in the future' (IISD, 1992, p3). This definition is a modified version of Brundtland Commission Report (WCED, 1987) that attempts to capture business enterprise relationship with its stakeholders. The definition of Dyllick & Hockerts (2002) does similar thing. As they point out when transposing Brundtland Commission idea to the business level, 'corporate sustainability can be defined as meeting the needs of the firm's direct and indirect stakeholders (such as shareholders, employees, clients, pressure groups, communities, etc.), without compromising its ability to meet future stakeholders needs as well' (p131). Another interested definition is that of Van Marrewijk (2003), which explains that corporate sustainability in general terms refers to 'demonstrating the inclusion of social and environmental concerns in business operations and in interactions with stakeholders' (p102). Van Marrewijk definition carries the tone of environmental accountability because of business with the stakeholder.

However, the usage of the terms "sustainability' and "sustainable development" are confusing; and sometimes they are used interchangeably (Bebbington & Gray, 2001). As Jallow (2009) distinguishes, the term sustainability engages with the concepts involved, while sustainable development (SD) attempts to describe how sustainability may be achieved in practice through mechanisms, tools and processes. In support of Jallow's point of views, Jones (2010) argues that SD is best seen as a relative instead of an absolute theoretical concept, which provides a broad theoretical umbrella under which practical environmental indicators, such as sustainable performance indicators and natural inventories can be operationalised. Therefore, the present study adopts *an empirical approach to identify the components of environmental sustainable development* that can be practically used by business corporations that are pursuing ES. The focus is the conservation of natural resources while embarking on business activities.

The early study that examined the *natural environment as a resource-based of the firm* is that of Hart (1995). The study established a link of internal capabilities of firms with physical environmental factors. Hart argues that a firm can take a competitive advantage based on its relationship to the natural environment. The three interconnected strategies highlighted in Hart (1995) are pollution prevention, product stewardship, and sustainable development. Pollution abatement according to Hart can be achieved through control and prevention; while product stewardship entails 'integrating the "voice of environment," that is, external stakeholder perspectives, into product design and development processes' (p993). Pollution prevention and product stewardship are two strategies that have helped to sever the negative links between business and environment in the developed market on the North. Hart further assert that:

> A sustainable development strategy, however, also dictates that effort be made to sever the negative links between environment and economic activities in the developing countries of the South (p996).

It is lack of severing the negative links between environment and economic activities of the natives that often lead to argument that firms sometimes contribute to underdevelopment of the local communities (Idemudia, 2012).

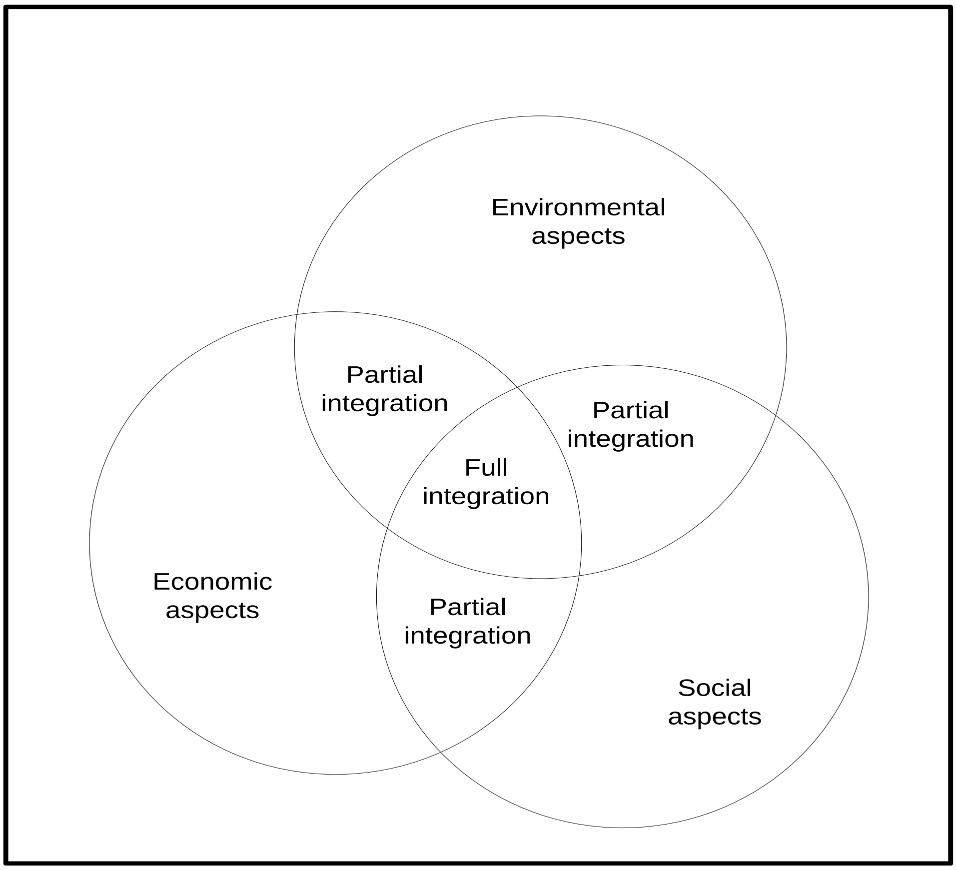
SD, evidently, is centred on human beings, communities, and societies rather than on purely economic grounds (Cornelius & Wallace, 2013). The essence of qualifying the development as sustainable is informed by the need for economic development to go hand-in-hand with sustainability of environment (Stenmark, 2002) that accommodates the humans who benefit from the economic development. SD has its roots in environmental management and analysis; over the years, sustainability as a concept was largely used synonymously with ES (Crane &

Matten, 2007). Sustainability concept is not limited to environmental issues only, however. Farley & Smith (2013) argue that the term is ambiguous and all-encompassing word that characterises any action plan that considers the social, economic, and/or environmental impacts of such action in decision making. Meaning that in recent times the concept of sustainability has been broadened, not only to include environmental considerations, but it also captures economic and social considerations (Elkington, 1998).

As Crane & Matten (2007) further explain,

> This extension of the sustainability concept arose primarily because it is not only impractical, but even sometimes impossible, to address the sustainability of the natural environment without also considering the social and economic aspects of relevant communities and their activities (p22).

Figure 3.2: Equalizing and Merging SD Components: Economic, Environmental and Social



Source: Lozano, 2008, p1840

Specifically, ‘one of the World Commission on Environment and Development’s primary espoused aims was eradication of world poverty and inequality’ and this can be achieved where ‘sustainability can be regarded as comprising three components – environmental, economic, and social’ (Crane & Matten, 2007, p23). Hence, Crane & Matten (2007) defines sustainability as a long-term maintenance of systems according to environmental, economic, and social considerations. This definition is captured in Figure 3.2. The Figure illustrates the need to equalize and merge the three aspects of SD. The target in developed as well as developing economy should be *full integration* of all aspects of SD. The environmental dimension of sustainability concerns an organization’s impacts on living and non-living natural systems, including ecosystems, land, air, and water (Global Reporting Initiative, 2014, Online). Therefore, the key point in SD is that corporations should fully integrate the social and environmental objectives with their financial aims and account for their actions against the well-being of a wider stakeholders through accountability and reporting mechanism (Juscius, 2007).

3.4.1 The Critiques of Corporate Contribution to Development

On the opponents’ side, one of the early critiques of CSR was that ‘a corporation is an artificial person and in this sense may have artificial responsibilities, but “business” as a whole cannot be said to have responsibilities…’(Friedman, 1970, p211). Though a corporation is an artificial person created by law, as Crowther (2004) affirms, 'in legal term a company is a person with the power to contract like any other individual although the reality is that this *contracting* (italic added) power is vested in the managers of the company’ (p45). Of course, the managers and chief executive officers (CEOs) are those who are under obligation to consider the social consequences and responsibilities for the business decisions they take on behalf of their corporations. The reason is that the outcome of such decisions will be binding on the whole corporation. The Gulf of Mexico oil spill and the associated environmental criminal charges levelled on BP on the grounds of negligence (Uhlmann, 2011) portrays the responsibility of corporation for the acts of its managers.

Besides, Levitt (1958) argues that social concern and the general welfare were not the responsibility of business, but government, and that business’s job was to take care of the more material aspect of economic welfare. Levitt’s fear was that attention to social responsibilities would detract corporations from the profit motive that was so essential for the success of any business (Carroll & Shabana, 2010). Again, Buchhoiz & Rosenthal (1999, p304), summarise the argument of the opponents of CSR as:

- The social responsibility concept provides no mechanism for accountability as to the use of corporate resources.
- Managers are legally and ethically bound to earn the highest possible rate of return on the stockholders' investment.
- Social responsibility poses a threat to the pluralistic nature of our society.
- Business executives have little experience, and little or no incentive to solve social problems.
- Social responsibility is fundamentally a subversive doctrine that would undermine the foundation of a free enterprise system.

From the foregoing, it is evident that the arguments for and against the company engaging in CSR activities have been going on for decades. However, as the CSR concept gains understanding many managers of corporations are in support and they have used it in making strategic managerial business decisions (Lantos, 2001). These are CSR business decisions that could yield substantial profits to a firm without any external threat (Burke & Longsdon, 1996 and Baron, 2006). Indeed, with increased awareness, the public is of opinion that business organisations, in addition to their pursuits of profits, should use CSR policies to address issues relating to their employees, the host communities, and other stakeholders, even if doing so requires sacrifice of some profits (Bernstein 2000). CSR is therefore seen not only as a means by which business can mitigate the impact of the negative externalities that arise from its operations but also as means to contribute to sustainable development in the Global South (Idemudia, 2008). CSR is now intertwined with the issues of international development and poverty reduction (Blowfield, 2004, 2005; Jenkins, 2005; Idemudia, 2008).

3.5 Empirical issues on drivers of CSR contribution to ES

Over the years, a growing amount of theoretical and empirical studies on CSR contribution to sustainable development have emerged. However, the empirical evidence on impact of CSR on CEP is limited, especially in developing countries. As stated in Kolk & Van Tulder (2010) there has been relatively little research in countries where the need for corporate responsibility is most pressing due to greater poverty, environmental degradation, and institutional governance issues. The statement becomes more meaningful when extended to studies on environmental sustainability (Kolk & Van Tulder, 2010). In terms of country-specific data study, Kolk & Van Tulder (2010) state that African countries are strongly underrepresented. In other words, there are scanty in-depth investigations of the role of CSR in driving ES in Africa as a region, using primary data. Therefore, general empirical studies on the subject are examined generally.

Solomon & Martin (2004) and Idemudia (2008) classify CSR into two categories: one based on the actual causal influence of an industry on its stakeholders, and the other on activities that business can do with considerable benefit to the community but that do not presuppose any prior wrongdoing or destructive activities on its part**.** In other words, where there is causal influence CSR becomes obligation otherwise it is affirmative duty. In any case, they are pursued by firms in the absence of external pressures attributed to any wrongdoing (Cornelius *et al*, 2008). This is ethical perspective of CSR presented in Schwartz & Carroll (2003) three-domain model of CSR. 'The ethical responsibilities of firms define expectations that are not stipulated in laws but are considered in the given society as being part of morals, ethos, or accepted rules of behaviour for firms and organisation' (Kuada & Hinson, 2012).

The empirical evidence of influence of specific normative perspective of CSR are few. The empirical study of Kuada & Hinson (2012) compares CSR drivers among foreign and local firms in Ghana Club 100 (i.e. top 100 firms in Ghana). The findings from the analysis of survey data gathered from 80 respondents among these firms indicate that local firms' CSR is driven by moral obligations. The local firms engage in CSR practices because they see such activities as part of their culturally prescribed duty (Kuada & Hinson, 2012). The study further indicates that foreign firms closely connect their CSR policy based on strategic benefits.

The study of Bowen (2000) also has a normative undertone. Bowen argues that environmental visibility influences organisational response to environmental issues. The qualitative analysis suggests a positive relationship between environmental visibility and green organisational response. In the present study, non-compliance with environmental requirements makes organisation visible environmentally. It is expected to trigger reaction from host communities and NGOs.

Besides, Harjoto & Ho (2015) use a sample of U.S public firms during 1993-2009 to examine the differential impact of overall, legal, and normative CSR on the analysts' earnings forecast dispersion, stock returns volatility, cost of equity capital, and firm value. The findings suggest that over 1-year lag, the normative CSR reduces analyst dispersion, stock returns volatility, and cost of equity capital; while it increases firm value as analysts begin to acquire information about the net benefit of pursuing normative perspective of CSR (Harjoto & Ho, 2015). Viewing from 1-year lag variable one can argue that the information about normative perspective CSR boost the corporate reputation and lead to increase in the firm's value. The indication is that even though normative CSR may not yield immediate observable benefit to firms in the first year of the initiative, at long-run it enhances corporate reputation and firm's value. Therefore, normative perspective is not a loss to firms but it still follows win-win concept as does neoclassical perspective (Idemudia, 2014a).

Some studies have suggested influence of external regulatory pressure as strong force behind CSR contribution to ES and such initiatives lead to corporate economic/financial performance (Christman, 2004; Williamson, *et al*., 2006). Christman (2004) examines the determinants of global standardisation of MNCs' environmental policies in chemical industry in the United States. The findings from multiple regression analysis of survey data from this industry suggest that MNCs standardise their environmental policies in response to external stakeholder pressure. The findings further show that the nature of stakeholder's demands affects firms' responses to stakeholder pressures (Christman, 2004).

The studies of Dasgupta, Hettige, & Wheeler (2000) point to state institutional pressure as determinant of social/environmental performance. Williamson *et al* (2006) also use survey strategy to examine the driver of CEP among 31 manufacturing small and medium-sized enterprises (SMEs) in the West Midland in the UK. The findings suggest *business performance* and *regulation* as the major drivers of CEP. The implication is that business response to regulation and takes business advantage by doing so. However, it is argued that state regulatory pressure does not make any considerable influence on the environmental behaviour of firms in most less developed countries (LDCs) because of its weakness (Strange, 1996; Tsikata, 1997; Graham & Woods, 2006).

Another regulatory pressure is "industry-based regulation", which is often referred to as corporate-self regulation (Graham & Woods, 2006). The study of López-Gamero *et al* (2010) employed SEM techniques to examine multivariate variables that include among others the styles of environmental regulations (command-and-control, voluntary norms (i.e., self-regulated)), managerial perception, and proactive environmental management. The findings show that voluntary normative self-regulation relates positively and significantly with both managerial perception about the environmental issues and proactive environmental management. Although command-and-control regulation relates positively with the two variables, the relationship is not significant. The findings indicate that self-regulation significantly relates with proactive environmental performance. However, Kolk *et al.* (1999) findings suggest that self-regulation has not been effective because lack of enforceability mechanism. This mechanism is a key concept in accountability system.

Several empirical studies support the neoclassical argument with evidence that CEP relates positively with corporate financial performance (CFP) (Cochran & Wood, 1984; Russo & Fouts, 1997; Orlitzky *et al*, 2003; Tsoutsoura, 2004; Moneva & Ortas, 2010; Uadiale & Fagbemi, 2012; Michelon *et al.*, 2013; Cheng *et al.*, 2014). One of the early studies is that of Cochran & Wood (1994). Cochran & Wood used investment returns and accounting returns as proxies of CFP and relate these with CSR measures (reputation indexes). They extracted reputation data from Milton Moskowitz index and integrated into the equation as dummy variable. (Moskowitz generates reputation index and rates firms as outstanding", "honourable mention" and "worst". See Cochran & Wood, 1984, p43). Using regression analysis technique, the data from 29 industries were tested. The findings indicate correlation of CSR with financial performance.

However, Gray (2007) argues that it is far from being clear why one might expect a positive relationship between social/environmental performance and CFP. He adds that if this were true in all cases 'only a moron would undertake actions which cause social and environmental ills' (p183) and thus incur corporate financial losses. Gray gives impression that some of the proxies used in measuring this relationship are potentially spurious. He makes stock market price response to environmental performance information an exception. Of course, empirical studies indicate a positive relation between environmental performance information and stock price (Lorraine *et al.*, 2004; Jacobs *et al.*, 2010). Gray (2007 also suggests the use of rigorous analytical methods and survey data instead of proxy variables.

In terms of analytical method Orlitzky *et al.* (2003) adopted meta-analysis approach with a large sample size of 33,878 observations in their study. The findings indicate that CSP correlate with CFP. Some studies such as Wu (2006) controlled for the size of firm. The findings support the previous studies that suggest a positive relationship between CSP and CFP. However, there is no correlation between the size of firm and CSP. Although the study of the influence of social/environmental performance of economic/financial performance is inconclusive (Gray, 2007), there is sufficient evidence based on data from developed economies that economic/financial performance could drive the use of CSR to contribute to ES.

The empirical study of Shafer (2006) suggests that the attitude which corporate managers have towards new ecological paradigm of conservatism positively correlate with corporate environmental accountability. The study of Fukukawa *et al.* (2007) that investigated the people's values and attitude among MBA students supports the argument that attitude relates positively with environmental accountability. Incidentally, as far as the researcher is aware, none of the empirical studies relates external influence of stakeholders with firm's implementation of environmental accountability procedures; nor is there any that suggests whether application of environmental accountability could lead to improved CSR contribution to environmental sustainability. These gaps are filled by this thesis.

3.6 Theoretical Issues in CSR Contribution to ES

The CSR studies, in recent times, have focused on the effectiveness of the initiatives in contributing to social/economic development of the society. The axiom is "what worth doing worth doing well"; the question posed by Campbell (2007) is "why would corporations behave in socially responsible ways"? Some theories have been examined to provide the bases and possible explanations for the use of CSR initiatives as means of contributing to SD. These theories include institutional theory (Tolbert, 1996; Campbell, 2007); stakeholder theory (Roberts, 1992; Henriques & Sadorsky, 1999; Ruf *et al.*, 2001; McWilliams & Siegel, 2001; Cooper & Owen, 2007; Jamali, 2008); social contract theory (Gray *et al.*, 1988; Gray *et al.*, 1996; Donaldson & Dunfee, 1999); political economy theory (Gray *et al.*, 1996, Makela & Nasi, 2010); and legitimacy theory (Guthrie & Parker, 1989; Suchman, 1995; Deegan, 2007).

Although most of these theories are tested with empirical data, there has been no consensus among the authors as to the theoretical explanations for the CSR contribution to sustainability. The argument from Campbell (2007) point of view is that even though some basic economic conditions relate with corporate behaviour, such relationship is mediated by institutional conditions such as private and public regulations. Therefore, institutional theory plays key role in corporate social responsible behaviour. To Ruf *et al* (2001) it is management response to multiple stakeholders that leads to financial benefit of dominant stakeholders such as shareholders. Henriques & Sadorsky (1999) explore the relationship of managerial perceptions of relative importance of different stakeholders and their environmental commitment.

Others also examine corporate social/environmental responsible behaviour through resource dependence theory (Pfeffer & Salanick, 2003) and theories of reasoned action and planned behaviour (Follows & Jobber, 1999; Cordano & Frieze, 2000; Martin-Pena, Diaz-Garrido & Sanchez-Lopez, 2010). Pfeffer & Salanick suggest that 'the ability to control the use of a resource is a major source of influence for some interest groups' (p49) and organisations behave socially to gain access to such resources. Martin-Pena *et* al (2010) examine such responsible behaviour through relating corporate managers' social/environmental behavioural intention with actual environmental actions. Such intention is determined by psychological factors in the belief system of the managers and it is considered as the major driver of voluntary actions (Fishbein & Ajzen, 2010).

Corporate social/environmental responsible behaviour is also viewed in the theory of accountability lens (Chinander, 2001; Parker, 2005; Shafer, 2006; Christensen & Lægreid, 2014; Gray *et al.*, 2014). Gray *et al* (2014) suggest that firms respond to social/environmental issues to present acceptable accounts to the parties (stakeholders) they are accountable to. That is, the environmental performance is improved to meet the stakeholders' environmental expectations. Another interesting theory used in researching for why organisations are socially/environmentally responsible is political economy accounting theory (Guthrie & Parker, 1990). The theory holds that accounting plays important role in the way organisations construct themselves and their environment, economically, politically, and socially (Parker, 2005).

Arguably, each of these theoretical lenses provides a useful insight and understanding of the social phenomenon; however, they do not deal with all and every eventuality or do they deal with each element in the human experience of social accounting and the planet (Gray *et al,* 2014). The impression is that there are a lot of potential issues on social/environmental accounting that could be theorised. For instance, there is need to understand what prompts stakeholder's demand for accountability and what would be expected from a good system of accountability. The need for good explanation of social structures and their interrelationships make application of certain theoretical lenses necessary in a research (Gray *et al.*, 2009). Therefore, the present study, which links the attitude of the natives with the environmental behaviour of firms, needs to be examined through key theoretical lenses.

3.7 Chapter summary

The chapter sets out to provide the conceptual and empirical evidence from literature on the role of CSR on ES. The review revealed a noticeable gap in literature as there are no empirical studies that examine the determinants of MNCs' use of CSR initiatives to contribute to ES in developing countries. This necessitates the review of general literature on CSR contribution to sustainable development. The chapter proceeds with conceptual review of literature on CSR, environment ethics and sustainable development, and sustainability and development paradigm. Different perspectives of CSR and ways they contribute to SD have been examined in detail with their related empirical evidence.

The literature reviewed has raised some fundamental questions which this study intends to address. First, what are the main factors that could be included in corporate ES agenda? Second, what is the nature of the relationship of environmental status in Niger Delta with the local communities' attitudinal behaviour towards oil companies? Third, why should MNCs adopt accountability procedures in their CSR practices? Finally, what are the respective environmental stakeholder groups' perceptions on the perspectives of CSR that could contribute to ES? These questions and issues raised provide the basis for the theoretical underpinning of this study which is the subject of the next chapter.

CHAPTER 4

THE ADOPTED THEORETICAL UNDERPINNINGS

The mind's thoughts or ideas are obviously inter-connected in some systematic way: there is some order and regularity in how, in memory and imagination, one idea leads on to another. (David Hume, 1711 – 1776).

4.1 Introduction

Previous chapter demonstrates that several theories are employed in explaining corporate social and environmental practices. The present thesis focuses on the role of accountability in enhancing corporate use of CSR to contribute to environmental sustainability. Given the scope of the study, four theories that provide logical explanations of the social/environmental phenomenon are used in developing testable hypotheses in this thesis. The four theories are stakeholder, social contract, accountability, and theory of reasoned action.

Therefore, the chapter begins with a brief discussion of the relevance of multiple theories in a study such as this in section 4.2. It is followed by discussion of stakeholder theory in section 4.3, and social contract theory in 4.4 The stakeholder and social contract theories establish the *legitimate relationship* between corporations and the communities. Section 4.5 discusses the role of theory of accountability in explaining the *responsibilities* corporate-stakeholder relationship (Gray *et al*, 2014). Theory of reasoned action (TRA) in section 4.6 is used in predicting the intentional actions which corporate managers could take based on their psychological beliefs about failure to take such actions. These theories and their inter-relationship are discussed in section 4.7. Section 4.8 highlights the gap in literature addressed by this study before the chapter's summary in the last section.

4.2 The Relevance of Multiple Theories in Business Research

Bryman (2008) defines theory as 'an explanation of observed regularities' (p5). Gray *et al.,* (2014) defines it as 'a conception of a relationship between things' (p74). As they further explain, theory 'refers to a mental state or framework … that determines, *inter alia*, how we look at things, how we perceive things, what things we see as being joined to other things and what we see as 'good' and what we see as 'bad'' (Gray *et al.,* 2014, p74). Over the years, social and environmental accountability has gradually accumulated fascinating theories from which researchers have been able to select for their ongoing theorising, debate and empirical studies

(Parker, 2005). Gray *et al* (2014) give impression that a single theory is always incomplete in analysing social phenomenon. This, as they argue, is due to the complexity by which social/environmental accounting is characterised. Gray *et al* further point to the fact that although each of the theories has insights and understandings to offer however, each of the theories will fail to fully explain the phenomena of social/environmental accounting of interest. Moreover, Gray *et al* (2009) argue that the use of a single theory is likely to be imperfect and incomplete in social research, whereas the application of theories that overlap or intersect may lead to a more intelligent debate. For instance, Makela & Nasi (2010) use three closely related theoretical lenses – stakeholder, social contract, and legitimacy – to investigate social responsibility of MNCs in downsizing operation in Finland.

Consequently, four theories are employed in this thesis. These theories are categorised into tw. The first set are stakeholder, social contract, and accountability theories. The theory of accountability (TOA) explains the corporate *responsibility* in stakeholder and social contract relationships. These three theories are examined to establish possible explanation and/or motivation for CSR contribution to environmental sustainability. The second, which is TRA, attempts to explain psychological reasons behind behaviour. That is, action based on prediction of being held accountable for not performing the act (Tetlock, 1999) and the of threats from stakeholders ((Fishbein & Ajzen, 2010)). The relationship of these theories was carefully examined as suggested in Morris (1987). Morris suggests that the relationship between theories can be assessed in two alternative ways such as examining their underlying axioms and concepts, or comparing their predictions. Based on axiomatic approach, Morris (1987) asserts that if two theories that deal with the same subject are to be employed in a single study any of the following assumptions should exist:

- The theories may be equivalent: the same theory under different guises.
- One theory may imply the other: that is, one is a subset of the other.
- The two theories may be consistent. This means that if one is true the other is possibly true.
- They may be contradictory or competing explanations of the subject: if one is true, the other is false (Morris, 1987, p49).

Furthermore, Morris suggests that each set of the necessary conditions should be investigated and compared. The researcher should ensure that the theories are equivalent or consistent or competing before employing them in a single study. For instance, stakeholders are a subset of a larger society. The theory of accountability that explains corporate responsibility to stakeholder also explains such responsibility to the society. Therefore, the assumptions of these theories are discussed in this section with attention on their key features and how they have been applied in previous CSR studies generally, and specifically on corporate environmental sustainability (CES) programmes. The inter-relationship of the theories is discussed to establish links that exist between the theories and CSR contribution to CES.

4.3 The Stakeholder Theory

Stakeholder theory, according to Gray *et al* (1996), is an explicit systems-based view of organisation and its environment which recognises the dynamic and complex nature of interplay between them. The theory has been reviewed extensively in the literature and various perspectives have emerged (Freeman, 1984; Clarkson, 1995; Mitchell, Agle & Wood, 1997; Frooman, 1999; Ruf *et al.*, 2001; Jensen, 2001).

Purpose

The argument is that stakeholder theory provides the theoretical support needed to effectively evaluate social/environmental performance of firms and understand the relationship between a firm and its stakeholders (Clarkson, 1995; Wood & Jones, 1995; Mitchell *et al.*, 1997).

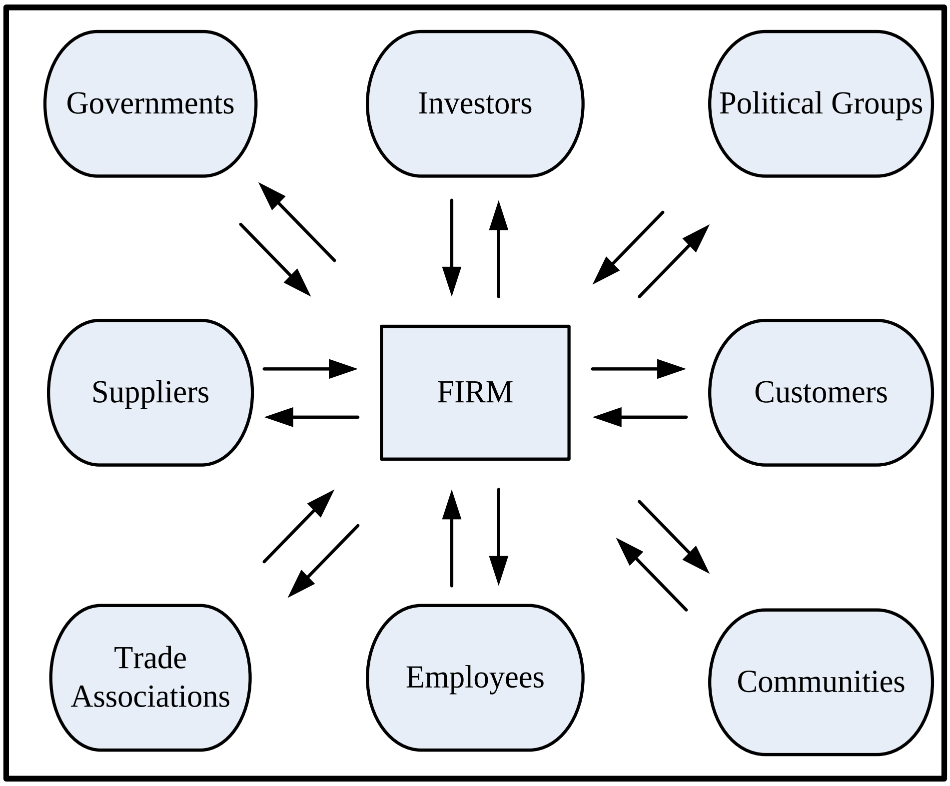
Application in the thesis

The potential of the stakeholder theory in explaining the *need for accountability* which is determined by the nature of relationship between the stakeholders and the organisation (Gray *et al.*, 1996) makes this theory relevant in this study.

4.3.1 Definitions/Features of Stakeholders

In management literature, the arguments that support the idea that corporations have various stakeholders are observable (Freeman, 1984; Clarkson, 1995; Donaldson & Preston, 1995; Baron, 2006). Stakeholders are 'groups and individuals who benefits from or are harmed by, and whose rights are violated or respected by, corporate actions' (Evans & Freeman, 1993, p254). Donaldson & Preston (1995) present the network of stakeholders as shown in Figure 4.1. These constituents, as they further explain, have an interest, or "stake", in their relationship with the firm; thus, they are referred to as stakeholders.

Figure 4.1: Corporate Stakeholder Model



Source: Donaldson & Preston (1995, p69)

Broadly, Freeman (1984, p 46) defines stakeholders as “any group or individual who can affect or is affected by the achievement of the organization’s objectives”. Clarkson (1995, p106) defines stakeholders as ‘persons or groups that have, or claim, ownership, rights, or interests in a corporation and its activities, past, present or future’. Such claimed rights and interests, as Clarkson (1995) further argues, are the results of transactions with, or action taken by, the corporation, which may be legal or moral, individual or collective. In this sense, stakeholders that have equal rights and interests are classified into similar group such as ‘suppliers, customers, employees, stockholders, and the local community’ (Evan & Freeman, 1988, p56). Each of these stakeholder groups, as Evan & Freeman (1993) argue, has a right not to be treated as means to some ends; rather they have to participate in determining the future direction of the firm in which they have a stake.

Clarkson (1995) further decomposes stakeholders of a corporation into two groups – the primary and the secondary stakeholders group. He defines the primary stakeholders group as ‘the one without whose continuing participation the corporation cannot survive as a going concern' (p106). Again, Clarkson (1995) identifies those in primary stakeholders group to comprise of shareholders and investors, employees, customers, and suppliers, and the public stakeholders group, which are governments and communities that provide infrastructure and markets, whose law and regulation must be obeyed, and to whom taxes and other obligations may be due. There seems to be a significant level of interdependence of the corporation and its primary stakeholder groups.

Based on this definition the host communities in Niger Delta fall into the primary stakeholder groups. Oil MNCs use this understanding to delimit the scope of their CSR and determine, geographically, the location of their CSR initiatives (Idemudia, 2009a). These are communities, which the negative impacts of their business affect directly. Government of Nigeria also fall into this group because of taxes and royalties.

The secondary stakeholders group is defined by Clarkson (1995, p107) as 'those who influence or affect, or are influenced or affected by, the corporation, but they are not engaged in transactions with the corporation and not essential for its survival'. As Clarkson explains, media, NGOs and wide range of interest groups fall into this special group of stakeholders. Even though they may not have direct transaction with the corporation, however, given their capacity to mobilise the public opinion to support or to oppose corporation, the researcher believes that their activities can equally threaten the very survival of the corporation or at least interrupt its activities. For instance, the article of the *Economist* (1997) with unusual title "Shellman says sorry" generated a lot of criticisms that indicted Shell. The article described how the Chairman of Shell (Mr. Herkstroter) accepted responsibility for key environmental mistakes made in Ogoni community of Niger Delta region of Nigeria (Donaldson & Dunfee, 1999). Even before that, it was the mass media that drew the attention of the local and international communities to the environmental problems in the region and when Shell did not manage it properly it resulted in interruption of business operation in the Ogoni for a long time (Donaldson & Dunfee, 1999). Hence it is necessary to adequately manage both primary and secondary stakeholder groups if the smooth running of corporate business activities is to be achieved.

4.3.2 The Purpose of Stakeholder Theory

Stakeholder theory provides the theoretical support needed to effectively evaluate social/environmental performance of firms and understand the relationship between a firm and its stakeholders (Clarkson, 1995; Wood & Jones, 1995; Mitchell *et al.,* 1997; Frooman, 1999). The theory expands the role of corporate managers beyond maximisation of shareholders' wealth to satisfaction of the interest of non-financial stakeholders of the firm (Mitchell *et al.*, 1997). Although the need to maximise the wealth of the firm is traditional and important, however, stakeholder theory indicates that managers should consider the interest of those their operational activities could affect when making business decisions. To achieve a long-term success in business, Jensen (2001) argues that adequate understanding of the relationship of wealth maximisation and stakeholder theory is necessary.

4.3.3 The Assumptions of Stakeholder Theory

Stakeholder theory begins with a fundamental assumption that values are necessarily and explicitly a part of doing business (Freeman, 1994). That is, business creates values as it transacts and interacts with constituents of stakeholders such as customers, suppliers and so on. Of course, business will definably shut down where key stakeholders are absent. Corporate-community conflicts in Niger Delta confirms the need to carry, at least, the primary stakeholders along (Clarkson, 1995). Therefore, it assumed that:

- Oil MNCs will identify stakeholders, which their business activities affect negatively;
- They will normatively manage all stakeholders based on their intrinsic value to the firm, and not merely because of its ability to further the interests of some other group;
- They will also identify and mange stakeholders that can affect their free flow of business;
- They will respond to the stakeholders' demand to avoid litigations and conflicts.

4.3.4 The Limitations/Critiques of Stakeholder Theory

The stakeholder theory has been criticised for certain limitations. Sternberg (1997) argues that it the means whereby everyone could be transformed into a stakeholder. Jensen 2001, argue that the theory can lead to confusion given that managers are brought under obligation to be accountable to too many masters. The impression is an indeterminate number of stakeholders. In addressing this critique, Mitchell *et al*. (1997) define stakeholder in terms of attributes such as power, legitimacy, and urgency. This definition enables identification of stakeholders and their level of importance. To qualify as a stakeholder the individual or group of persons should possess one or two of these attributes. Based on this clarification, confusion of managing an indeterminate number of stakeholders could be minimised and managers can identify those to give attention. That is, managers are expected to know powerful stakeholders that can influence the operation of their business if they do not address their concerns urgently (Mitchell *et al*., 1997). Besides, based on agency theory, 'stakeholder theory … does not advocate the service of two masters. Rather, managers serve the interest of one master: the organization' (Phillips *et al.*, 2003).

Stakeholder theory is also seen as an excuse for managerial opportunism (Jensen, 2001). The argument is that opportunistic managers can more easily act in their own self-interest while claiming that their actions are in the benefits of some stakeholder groups (Sternberg 2000). Sternberg adds that stakeholder theory has the potential to destroys business accountability because a business that is accountable to all, is actually accountable to none. In response to this critique Phillips *et al.* (2003) admit that managerial opportunism is the problem, but it is no more a problem for stakeholder theory than the alternatives.

Of course, the well-known Enron and Worldcom cases of years of mismanagement was not in association with application of stakeholder theory. In term of accountability one could argue that 'having to answer to multiple constituencies will increase accountability rather than mitigate it' (Phillips *et al.*, 2003, p484). In other words, various groups of stakeholders may raise various questions on various managerial issues; therefore, prudent managers will endeavour to be as transparent as possible to satisfy these constituents of stakeholders. This invariably implies operating with a high sense of accountability to meet the expectations of the stakeholders.

4.3.5 Perspectives of Stakeholder Theory and their Applications and Implications

Donaldson & Preston (1995) identifies three distinct perspectives of stakeholder theory as descriptive/empirical, instrumental, and normative. While descriptive/empirical perspectives attempt to describe and/or explain the behaviour of firms and their managers towards stakeholders, instrumental aspect of the theory intends to explain what if firms or managers behave in certain ways (Jones, 1995). As Jones (1995) adds, normative perspective of the theory explains the moral property of the behaviour of firms and/or managers towards stakeholders. These three aspects of the stakeholder theory, as they conclude, mutually supportive; however, 'the normative base of the theory – which includes the modern theory of property rights – is fundamental' (Donaldson & Preston, 1995, p65). These perspectives, their assumptions and implications are further discussed in this section.

4.3.5.1 Descriptive/Empirical Perspective, and its Implications

Empirical perspective of stakeholder theory is used to describe, analyse, and sometimes to explain, specific corporate characteristics and behaviour adopted in managing various stakeholder groups (Donaldson & Preston, 1995). As they further argue, this perspective of the theory reflects and explains past, present, and future states of affairs of corporation and their stakeholders. The descriptive theory is used in describing, analysing and sometimes explaining the characteristics and behaviour of firms' relationships with stakeholder groups and how the managers consider managing them. In real terms, simple description is desirable in the exploration of new areas, which often expands to generate explanatory and predictive propositions. As an empirical view of the perspective of the theory of management the stakeholder theory holds that 'effective management requires the balanced consideration of and attention to the legitimate interests of all stakeholders, defined as anyone who has a stake in or claim on the firm' (Evan & Freeman 1988, p69).

This perspective of stakeholder theory is justified because many managers believe themselves, or are believed by others, to be practicing stakeholder management (Clarkson, 1995, Donaldson & Preston, 1995). For example, Wheeler *et al.* (2002) argue that over the years, firms such as Shell, Rio Tinto and others have exhibited increasingly stakeholder-responsive behaviours at the corporate strategic level. Besides, this theory enables the adequate understanding of the structures and dimensions of business-and-society relationships given that it establishes an essential foundation for discerning the relationships among various indicators of corporate performance (Wood & Jones, 1995).

Some studies have provided empirical evidence of descriptive perspective of stakeholder theory (Ruf *et al.,* 2001; Lorraine, Collison & Power, 2004; Michelon, Boesso & Kumar, 2013). Ruf *et al* use data from Kinder, Lydenberg, and Dominic Inc. (KLD) Ruf e*t al*, (2001) to test the proposition that change in corporate social performance (CSP) is positively related to current and future changes in financial performance after controlling for size, industry, and prior year's financial performance. They use composite measuring approach by (1) identifying the dimensions of CSP, (2) selecting respondents to evaluate the relative importance of the dimensions, and (3) evaluating independent's firm performance for each of the dimension. Specifically, Ruf e*t al*, (2001) conclude that change in CSP positively associate with growth in sales for current and subsequent year. The indication is that there are even short-run benefits to corporations that improve their CSP. This implies that CSP can be used as means of improving CFP (Jones, 1995). The implication is that the dominant stakeholder group (i.e., shareholders) benefits financially when management meets the demands of multiple stakeholders.

The study of Lorraine *et al.*, (2004) also draw data from KLD to examine whether CSR initiatives have a greater impact on company performance if the company prioritizes the CSR issues that matter most to it and approaches CSR initiatives in a strategic way. Their findings implication is that when a company pursues CSR initiatives that are linked to stakeholder preferences and allocates resources to these initiatives in a strategic way, then the positive effect of its CSR initiatives on corporate performance would boost both market-based and accounting-based measures of performance.

4.3.5.2 Instrumental Perspective and its Implications

From the instrumental perspective, the theory endeavours to explain, using empirical data, a connection between stakeholder management approaches adopted by the managers and the achievement of what is often referred to as the traditional objectives of corporation such as profitability, stability, and growth (Donaldson & Preston, 1995). The basic *assumption* behind this perspective of the theory is that corporations' ultimate aim of adopting stakeholder management approach is to boost their success at the marketplace (Jawahar & McLaughlin, 2001). This perspective supports Friedman (1970) argument that where a corporation generates goodwill as a by-product of its expenditures on social activities in favour of multiple stakeholder groups, such expenditures are entirely justified on the grounds of its own *self-interest* of making more profit rather than satisfying the stakeholders.

Theoretically, the motivation for taking instrumental stakeholder management approach is the expected corporate performance. That is, either doing things to avoid stakeholders' actions that could be detrimental to business economic performance, or doing things that will appeal to the patronage of the stakeholders and thus increase the economic performance. In Niger Delta, initial CSR initiatives were used as means of securing *right-of-way* when amid the community conflicts (Idemudia, 2010).

In recent times, some CSR studies, which made explicit or implicit reference to instrumental stakeholder perspective, adopted conventional statistical methodologies to verify this relationship (Jones, 1995; Orlitzky *et al.*, 2003; Egels-Zandén, & Sandberg, 2010; Garcia-Castro *et al.,* 2011). Other studies such as O'Toole (1991) and Kotter & Heskett (1992) engage in direct observation of the performance of some companies that strongly share in stakeholder perspective.

Cheng *et al.* (2014) employs a cross-section data from large firms to investigate whether superior performance on corporate social responsibility (CSR) strategies leads to better access to finance. Their findings suggest that better stakeholder engagement and transparency around CSR performance, are important in reducing capital constraints. Their findings further show that the relation of these variables is driven by both the social and the environmental dimension of CSR. Therefore, from instrumental perspective, the theory's implication is that "enlightened stakeholder management" is a necessary precondition to seek shareholders' value maximization (Garcia-Castro *et al.,* 2011). This perspective of the theory is relevant in this thesis because the researcher assumes that oil MNCs will use CSR initiatives to address environmental issues in order to quell community reactions to environmental pollution.

4.3.5.3 Normative Perspective and its Implications

Stakeholder theory from normative perspective endeavours to interpret the function of the investor-owned corporation based on some underlying moral or philosophical principles (Donaldson & Preston, 1995). As they argue this perspective of the theory views stakeholders as persons or groups with identified legitimate interest in procedural and/or substantive aspects of corporate activity, whether the corporation has any corresponding functional interest in them is not a condition. Normative perspective of the theory requires admitting that interest of all stakeholder groups is based on their *intrinsic value* to the firm; which means 'each stakeholder group merits consideration for its own sake and not merely because of its ability to further the interests of some other group, such as shareholders' (Donaldson & Preston, 1995, p67).

Specifically, stakeholder theory, when viewed from normative perspective asserts that, regardless of whether adequate stakeholder management leads to improved corporate financial performance, managers should manage the business for the benefit of all the stakeholders (Hasnas, 1998). Therefore, 'the managerial relationships with stakeholders are based on normative, moral commitments, rather than on a desire to use those stakeholders solely to maximise profits' (Berman et al, 1999, p492). This aspect of the theory does not view firm as mechanism for increasing the stockholders' financial returns, rather as a vehicle for coordinating stakeholder interests and sees management as having a fiduciary relationship not only to the shareholders, but to all stakeholder groups (Hasnas, 1998). As Hasnas further argues, the normative stakeholder theory expects the managers of firms to give equal consideration to the interests of all stakeholders and, where these interests conflict, manage the business so as to attain the optimal balance among them.

In the study of Henriques & Sadorsky (1999) content analysis techniques was employed to investigate, among 400 firms, whether firms committed to natural environment stewardship differ from less environmentally committed firms in their perception of the relative importance of different stakeholders in influencing their environmental practices. Reactive, defensive, accommodative, and proactive are four environmental profiles used in the study. The findings indicate that firms with more *proactive* profiles do differ from less environmental committed firms in the perceptions of the relative importance of different stakeholders. The implication of the findings is that apart from the media, every other stakeholder group is perceived to be important to firms who are committed to ES proactively, and they manage their environmental problem actively (Henriques & Sadorsky, 1999). They conclude that environmentally proactive firms, relative to other firms, appear to have senior managers who are willing to use management systems and/or policies to encourage corporate environmental ethics.

This study leans towards normative perspective of stakeholder theory than others. Environmental misbehaviour carries risks (Clarkson, 1994) which the main bearers are not the dominance stakeholders such as shareholders, but the inhabitants of the local physical environment. Their property rights and human rights are violated by the activities of multination corporations (Donaldson & Preston, 1995). From the volume of literature on descriptive and instrumental perspectives of stakeholder theory it is evident that there is a significant push of the concept of stakeholder towards what benefits the business than what benefits the society that informs the concept in the first place. Davis (1960) considers this as extreme. Blowfield (2007) submits that the impact of CSR on business itself and the benefits business derive from CSR are well known while less is known about how CSR affects the major social issues it was intended to tackle. The reason, most likely, is that firms are reluctant to undertake social/environmental responsibilities where immediate benefits cannot be modelled into the equation (Jamali, 2008).

4.3.6 Justification of Stakeholder Theory in the Present Study

There are few, however, strong reasons to justify the use of stakeholder theory in this study. When looking at the risk associated with business externalities, it becomes necessary for firms to adopt stakeholder theory in their business management. The theory explains the normative obligations of a firm and points out the need to attend to those stakeholders who are placed at risk by the business activities (Clarkson, 1994). Donaldson & Preston (1995) argue on the side of property rights of the stakeholder. Their argument is that the stakeholder model can be justified on the basis of the theory of property rights. In addition, they state that property rights are relations between individuals and that it is wrong to separate human rights from property rights. These rights need be prospected. Therefore, corporations cannot be absolved from moral obligations where their business activities are harmful to others' rights. The question that begs an answer is, "Do oil multinational corporation's business activities affect the rights of those in the host communities?" Section 2.6.2 of Chapter 2 provides a detailed answer to this question.

In Clarkson (1995), the communities are grouped into primary stakeholders, meaning they can wield a significant positive or negative influence on the activities of the corporations. They possess legitimacy and salience characteristic of stakeholder highlighted in Mitchell *et al* (1997). This buttresses the argument that firms need the support of the host communities because their continuity as a *going concern depends on the support of the society* (Baron, 2006). Of course, in a situation where any of the primary stakeholders group is dissatisfied and hence withdraws its support, in whole or in part, from the corporate system, this could result in serious conflict (Donaldson & Dunfee, 1999), which could threaten the *going concern* concept of the corporation (Clarkson, 1995). Therefore, the need for stakeholder group consultation and dialogue is embedded in this broad theoretical approach (Parker, 2005). In the context of this study the primary group of stakeholders, which is local communities should be normatively managed by consulting and involving them on environmental issue that affect them.

4.4 Social Contract Theory (SCT)

Contractarian approaches using methodology derived from classical political philosophy have evolved over the years as a significant tool required in solving fundamental problems corporate business activities cause local communities (Donaldson and Dunfee, 1999). Conceptualising the relationship between business and the society in which they are part, using contractarian theories, endeavour to identify certain obligations corporations owe the local communities.

Social contract theory (SCT) is a theoretical construct that uses hypothetical contract to determine the rights and duties of people and social institutions (Conry 1995). It needs be emphasised that being a theoretical construct an individual cannot simply go and find a copy of the contract (Deegan, 2007). SCT, as Conry (1995) argues, has been an integral part of philosophical, political and religious thinking for generations. Such line of thought is reflected in the argument that:

> State of nature was fine until man mixed his labour with the things of the earth to create private property. Then fraud and force became profitable and majoritarian government became necessary to protect private property (Conry 1995, p211).

4.4.1 Definition of Social Contract

In literature, the most familiar specific definition of social contract theory is the traditional one rooted in the work of Locke, Hobbes, and Rousseau. The definition, according to Conry (1995, p187) is grounded on the following logic:

1) a given human nature determines,

2) how people live in "the state of nature," (that is when there are no social institutions) and this in turn determines,

3) the terms of an acceptable social arrangement, a contract, among the people or between people and a social institution.

Conry argues that elements of these definitions can be seen in the social contact theorizing of John Locke given that Locke begins his social contract discourse with *human nature*. In Locke's view human nature is strongly rooted in the benevolence and the brotherhood of man. Thus, reason and sociability constrained Locke's human nature so that interactions with others are relatively easy (Conry 1995

Other traditional social contract theorists – Hobbes and Rousseau also follow the same line of argument that human nature determines the state of nature which leads to forming a s*ocial contract* acceptable to persons and institutions in a particular society (Conry, 1995; Ndiyo, 2008). In other words, human beings are so knit together in such that even though they exist as individuals they do so only with the help of and within communities. This implies that governments and institutions can make individuals in society richer, healthier and freer or they can stifle and impoverish them (Ndiyo, 2008). This therefore makes social contract relevant in determining the authority institutions and governments have over human beings in a particular community. Traditional social contract as could be observed, focus more on hypothetical contract between the governed and the government (Conry 1995; Ndiyo, 2008) with little or no attention to business organisations. Of course, the primary emphasis of contractarian scholars, historically, was on political social contracts designed to serve as a foundation for forms of societal organisation not to solve community-business relational problems (Dunfee, 1991).

However, Donaldson (1989), Dunfee (1991), and Donaldson & Dunfee (1999) have developed perspectives of social contract theories that are concerned with business organisation. Donaldson (1989) uses imaginary social contract as a heuristic device to identify terms in the contract that establish a minimal floor of responsibility for global corporations. On the other hand, Dunfee (1991) emphasises real or extant social contracts as a construct that constitutes a significant source of ethical norms in business. Dunfee (1991) main argument is that when these real, though usually informal, social contracts are based upon *free but informed consent*, and when the norms they generate are consistent with the core principles of broader ethical theories, *they become prima facie obligatory*. Again, Donaldson & Dunfee (1999) theorise integrated social contract theory. They emphasise that integrated social contract theory is the product of integrating the broad traditional approach of the social contract with “extant” social contract in an attempt to develop an applicable social contract theory.

Besides, in this hypothetical state of nature, they argue that such rational global contractors would agree to the following micro to macrosocial contract setting the terms for economic ethics:

1) Local economic communities have moral free space in which they may generate ethical norms for their members through microsocial contracts.
2) Norm-generating microsocial contracts must be grounded in consent, buttressed by the rights of individual members to voice and exit.
3) In order to become obligatory (legitimate), a microsocial contract norm must be compatible with hypernorms.
4) In cases of conflicts among norms satisfying macrosocial contract terms 1-3, priority rules or “rules of thumb” must be established through the application of rules consistent with the spirit and letter of the macrosocial contract (Donaldson & Dunfee, 1999, p440).

In the integrated SCT macrosocial contract, “hypernorms”, are defined by Donaldson and Dunfee (2000) as principles that are so fundamental in such that they constitute norms by which all other principles are to be judged. Hypernorms in their opinion are discernible in a convergence of religious, political and philosophical thought. An “authentic norm” is one that is generated within a community’s moral free space and it satisfies the requirements of terms 1 and 2 of the macrosocial contract. These authentic norms in most cases are based upon the attitudes and behaviours of the members of their source communities. In addition, a “legitimate norm” is an authentic norm that is compatible with hypernorms. Of course, a norm has to be established as legitimate before it may become binding for members of the norm-generating community (Donaldson & Dunfee, 2000).

Donaldson & Dunfee (2000) argue that in answering today’s questions about obligations of key social institutions, such as business or government, to the society requires a new approach to business ethics, ‘an approach that exposes the implicit understandings or “contracts” that binds industries, companies, and economic systems into moral communities’ (p436). It is in these economic communities, and in the implicit understanding that the stuff of business ethics is found (Donaldson & Dunfee, 1999). This implies that multinational corporations operating in a certain community enters into a social contractual relationship with these economic communities even though such contracts are not documented and signed.

4.4.2 Features of Social Contract

4.4.2.1 Interests

SCT is rooted in the interest which the actors in society have in the resources. The need for social contract stems from necessity of exercising control over such resources (Coleman, 1994). From Locke’ point of views, the *state of nature* was fine and man enjoyed perfect freedom and brotherhood in his natural environment until man started to use natural resources to create wealth and possess private property which needed to be protected and/or exchanged for value. Such creativity and innovation, partially, cause some men to violate the rights of others in the society as they explore the natural environment. Given this scenario, social interdependence and systematic functioning arise from the fact that certain actors have *interests* in events that are fully or partially under the control of other actors (Coleman, 1994). In order to redress this problem, men in Locke’s *state of nature* form *a social contract* among themselves by creating a civil government with power proportional to the problems in the state of nature, and rebelling against any ruler who becomes a tyrant (Conry 1995; Ndiyo, 2008).

Interest is also reflected in property rights, which is connected to the human rights (Donaldson & Preston, 1995). Landed property is major resource of interests to the natives. Without gainsaying, the communities' economic activities are tied to this resource. For instance, in developing countries were subsistence farming is the mainstay occupation in most villages, such resources are very important because they are the main sources of their livelihood. Resource control struggle in Niger Delta also point to the need for social contracts (Ikelegbe, 2005). The natives claim that crude oil found in their native land belongs to them and that they should have significant benefit from it.

4.4.2.2 Informed consent

Another feature is an *informed consent* of the society. The main argument of Dunfee (1991) concerning real or extant contract is that when these real, though usually informal, social contracts are based upon free but *informed consent*, and when the norms they generate are consistent with the core principles of broader ethical theories, they become prima facie obligatory. Any business organisation that goes to do business in such community is expected to respect these norms and values of the natives. The pressure to define conditions and contingencies of the business for informed consent is reflected in the move towards agreement-making with the host communities (Owen & Kemp, 2013). Such 'agreements have the potential to address concerns relating to recognition of rights and the distribution of development outcomes, through compensation arrangements and efforts to localise economic benefits' (Owen & Kemp, 2013, p5).

4.4.2.3 Social license to operate

"Social license to operate" is also a key feature of social contract that is worthy of being mentioned. Some scholars are of opinion that social license represents a social contract between companies and the communities (Owen & Kemp, 2013; Lacey & Lamount, 2014). In other words, social license to operate is equivalent to *consideration*, which is the value in simple business contract. It is applicable at the range of societal level, from macro to local (Owen & Kemp, 2013). When considered as consideration it underpins the understanding that the perceptions or responses of the host communities can determine corporations' access to resources. Moreover, when corporations are confronted with potential social/environmental risk or a direct connection to business risk is established, it is *license to operate concept that forces social issues into corporate agenda* (Owen & Kemp, 2013).

4.4.3 Critiques of SCT

Critiques have identified certain flaws in the assumption about human nature, normative authority, and the determinacy of social contracts. As Conry (1995) points out, modern research establishes that human nature is very complex and varies significantly. Hence, assumption of homogeneity of human nature is wrong. He further argues that the cement for human nature is created by mixing human nature with normative authority and logic. Therefore, if any of these components is flawed then the mixture cannot be solid and then social contract cannot be formed. Based on this Conry (1995) discloses that "*is*" does not imply "*ought*"; therefore, if one declares that for human nature, what *is*, determines what *ought* to be, then naturalistic fallacy is committed (Conry, 1995). He concludes that this naturalistic fallacy is based on the assertion that human nature is not normative; rather religion is required to make human nature normative because religion teaches that 'God is all good and that man is made in the image of God' (p190). This implies that man can be good if he allows the image of the good God to reflect in him. Even if normative authority exists, it is not clear whether such authority and the facts of the human condition can really determine and shape the terms of social contract.

Moreover, the *integrated social contract* theory is also subjected to criticism over some issues touching its normative authority. The argument is that the group norms, as sources of moral authority, are subject to withering criticism (Conry, 1995). In reality, as Conry (1995) further argues, norms are often created unconsciously and unthinkingly. Therefore, the unresolved question is why then should norms have any moral weight if they are unconsciously and unthinkingly established? Even when they are partly thought through, Conry considers it as populist opinion and points out that, Socrates, perhaps the greatest speculative philosopher, rejects populism as a moral authority. The point is that even though a group of people share a belief about what is right this does not make such belief an obligation. Therefore, ascribing normative authority to group norms seems to be a mistake. However, Thomas Dunfee has been able to establish in extant social contract that ethics is defined by managers largely in terms of complying with group norms and by focusing on this makes business ethics much more pragmatic and much more in touch with day-to-day life of the practitioners than ever before (Conry, 1995; Wempe 2009).

4.4.4 Assumptions of SCT

In the discourse of the social contract there is a simple assumption that a better understanding of the obligations of key social institutions, such as business or government, can be gained by attempting to understand what is entailed in a fair agreement or "contract" between such institutions and the society; it also enable understanding of the implicit contracts that exist among the different communities and institutions within communities (Donaldson and Dunfee, 1999). While explicit contracts legally define the relationship that exist between a firm and its stakeholders, implicit contracts lack legal standing therefore are often referred to in the economic literature as self-enforcing contracts (Ruf *et al*, 2001). The main consideration in social contract is the license to operate (Owen & Kemp, 2013; Lacey & Lamount, 2014). It is therefore assumed that the society gives license to operate to the business with understanding that:

- They will adopt product stewardship strategy suggested in Hart (1995) as integration of the "voice of environment," that is, society of stakeholder's perspectives, into product design and development processes.
- They will respect the terms of the implicit social contract with the host communities (Donaldson & Dunfee, 1999) by performing their ethical environmental obligations (Simon *et al.*, 1993).
- They will use CSR initiatives for the purpose of discharging the organisation's environmental accountability under the assumption that a social contract exists between the organisation and the society. The existence of this social contract demands the discharge of such accountability (Gray *et al.*, 1992)

4.4.5 SCT Application and Implications

Spicer *et al* (2004) test the empirical validity of integrative social contracts theory in explaining ethical behaviour of similar group of people in different countries. The study focussed on the "hypernorms" and "local norms" of Americans working in Russia and those working at home country. The authors surveyed the American expatriates in Russia and Americans working in the United States using similar data collection instrument. Their study endeavours to integrate the normative perspective of the theory with descriptive. Their findings suggest that integrative social contract theory can explain how expatriates evaluate ethical dilemmas abroad. Nichols (2009) also uses the integrated social contract theory to study ways corruption could be controlled. The findings indicate that recognition of norms generated by multiple communities has the tendency to curb corruption than international laws.

Generally, SCT received a scanty attention in the scholarly literature in terms of application (Corvellec, 2007; Owen & Kemp, 2013). In CSR, it is sometimes applied in conjunction with legitimacy theory (Deegan, 2002) and/or stakeholder theory (Mäkelä & Näsi, 2010). Mäkelä & Näsi employ social contract theory in conjunction with stakeholder and legitimacy theory to examine social responsibilities of MNCs in downsizing their operation in Finish forest sector. They conducted a detailed textual analysis of the downsizing scenario with the aim of disclosing the varying conceptions of CSR by firms and stakeholders in such a situation. Mäkelä & Näsi conclude that when a social contract based on a long history is broken or abandoned, and the operation (or reputation) of the company is threatened by a legitimacy crisis, company representatives and the stakeholders speak different languages.

4.4.6 Justification of SCT in this Study

The general implication of SCT is that the legitimate right of any organisation to operate in a given society depends on the support of the community. As Deegan (2007) argues:

> Such support is earned as a result of the organisation being perceived by the society as complying with the expectations of the society with which they interact. The expectations that society has with regards to the how an entity shall act are considered to constitute the social contract between the organisation and the society (p133).

It is apparent that oil MNCs can carry on their business operations only to the extent that they have the support of the local communities. The experience of Shell and Ogoni community in Niger Delta region of Nigeria in mid 1990s explicates the need for support of communities (Donaldson & Dunfee 1999). Deegan (2007) points out that it is often considered that the very survival of a business organisation will be threatened if the society perceives that the organisation has breached its social contract. Where society is not satisfied that the organisation is operating in an acceptable or legitimate manner, it has the right to revoke the organisation's 'contract' to continue its business operation (Deegan, 2007). In other words, the communities' *voice* or *act that demonstrates resistance to projects* indicate communities' attempt to withdraw *social license to operate*. Specifically, Ogoni communities' denial of access to Shell's oil facilities in middle 1990s (Boele *et al*, 2001a) demonstrates the importance of this theory in the present study. Arguably, oil MNCs can have good corporate-community relationship if the expectations of communities are identified and treated satisfactorily (Eweje, 2007; Idemudia, 2007b).

4.5 Theory of Accountability

The theory of accountability (TOA) is rooted in public administration, modern representative political democracy, business, and social contexts (Frink & Ferris, 1998; Schmitter, 2004; Schedler, 1999; Finner, 2010; Friedrich, 2010). It is 'viewed as a description of a category of causal factors of behaviour in social settings' (Frink & Klimoski, 2004, 1). That is, interconnection of factors that could influence the way we behave in a social setting.

4.5.1 Purpose of Theory of Accountability

TOA explains predictable behaviour either in a relationship between two parties or in self-accountability (Frink & Klimoski, 2004). In the language of Calkins (1979) accountability is often introduced into the planning process to aid evaluation of plan implementation actions by relating goals and objectives to specific program and policy actions. The aim being to identify achievement and how that happened and then reward satisfactory performance and penalise unsatisfactory ones (Frink & Ferris, 1998).

In organisations, this could be observed in staff promotion of outliers and non-promotion, suspension, demotion or firing of unproductive employees. Consequently, every serious-minded employee will strive to achieve a set goals and objective for anticipated performance review. Therefore, theory of accountability has largely been one of explaining reactions to anticipated reviews (Frink & Klimoski, 2004). The theory identifies a set of preconditions for promoting internalization of new performance-appraisal standards, including:

- the perception that the standards are high but reasonable so;
- the perception that everyone must work hard, that that the standards were set through fair procedures;
- the belief that the standards are indeed necessary for the survival of the organisation; and
- the prior existence of strong normative commitments to good citizenship within the organisation (Tetlock, 1999, p123).

Apparently, accountability is a natural bridging construct between an individual and organisation during performance assessment. As Tetlock (1999) points out, 'the theory is pitched at meso or intermediate level of analysis: the focus is neither the individual nor on social structures but rather on the individual's relationship to social structures' (p118). Whenever there are goals or objectives to achieve by individuals or organisations, it is the sense of accountability that drives excellent performance. It does not matter whether the accountability is to be rendered to an independent party or to oneself (Frink & Klimoski, 2004). For instance, one may internalise the thought of being asked by a friend how he performed in his academics. Even though his friends may not punish him for his failure, he will strive to improve upon his performance because he does not want to be ashamed among his peers. Invariably, the sense of accountability drives his intentional improvement in his level of performance.

Similarly, TOA explains corporate actions taken because an independent party will be interested in the outcome. For instance, the sense of being questioned by powerful stakeholders over certain behaviour may drive improvement in performance. Even when sanction is enforced in case of unacceptable performance, the aim is still to improve future performance. Therefore, the cardinal purpose of accountability is to improve the level of future performance.

In the present study, environmental accountability is expected to boost corporate environmental observable performance. The elements, rules, and procedures of environmental accountability are put together in this context. One critical element of an environmental accountability itself is stakeholder participation in environmental decision-making (Cumming, 2001; Paddock, 2004). In the environmental accountability literature, it is warned against overreliance on corporations, market mechanisms and the increased managerial discretion that goes with them (Gray et al., 1993). At least in principle, the notion of accountability is used as 'an emancipatory concept helping to expose, enhance and develop social relationships through a re-examination and expansion of established rights to information' (Gray, 1992, p413).

4.5.2 Definition of Accountability and Environmental Accountability

In its broadest sense, 'accountability simply refers to the giving and demanding of reasons for conduct in which people are required to explain and take responsibility for their actions (Parker & Gould, 1999, p116). In Holy Bible, a steward was accused before his master for wasting his resources. 'So, he (*the master*) called him and said unto him, "What is this that I hear about you? Give an account of your stewardship…" (Luke 16:2; New King James Version). That was a call for accountability for unacceptable performance. Therefore, accountability is defined broadly, in Gray *et al* (1996) as 'the duty to provide an account (not necessarily a financial account) or reckoning of those actions for which one is held responsible' (p38). It arises from a relationship between two or more parties (individuals or organisations) and its nature is determined by the social and moral context in which the relationship is manifest (Gray *et al.*, 2014, p50). It also

> Refers to implicit or explicit expectation that one may be called on to justify one's beliefs, feelings, actions to others; … it implies that people who do not provide a satisfactory justification for their actions will suffer negative consequences; …*and* people who do provide compelling justifications will experience positive consequences (Lerner & Tetlock, 1999).

In its specific sense, accountability is defined in terms of accounting and reporting function, which implies explanation or justification of actions (Patton, 1992). In this context, accountability is justification of *retrospective action or performance* (Gray *et al.*, 1996). It revolves around two specific themes. One of the themes is concerned with the *context*, that is, *who* and *what* is involved in a given context (e.g. oil firm, host communities, and the environmental pollution); and the second theme involves the notion of an evaluation and feedback activity about level of performance (Frink & Klimoski, 2004).

Traditionally, accountability has involved defining of rules and procedures upon which the level of compliance will be evaluated (Jos & Tompkins, 2004). Thus, compliance is tested through audits, investigations, and reviews of past performance with the aim of establishing whether rules have been broken; where this happened, how to impose a punishment that will be appropriate to the violation; and indicate whether the punishment will deter future compliance failure (Jos & Tompkins, 2004). Gray *et al.* (1996) and (Schedler, 1999 refer to this aspect as *prospective accountability*. Accountability has been viewed in terms of one's implicit self-judgement over the way others will judge his performance (Tetlock, 1999). The crux of the whole idea of accountability is aiding improvement of future performance.

Accountability has also been linked in Williams (1987) to concepts of fairness and ethics. Williams argues that giving priority by accountants to decision-usefulness concept of accounting report is misplaced, because decision-usefulness is incapable of enhancing financial data evaluation and explanation while ignoring interdependence of decisions on efficiency and distribution. In his opinion accountability should be given the primacy because of its inherent constraints and fairness property. The bases of his argument are that while decision-usefulness involves implicit judgements about fairness (which may not be transparent) accountability itself allows explicit judgement about fairness and it considers moral cognitions in developing and understanding accountability procedures.

Fairness theory predicts that the need for accountability will arise where unfavourable condition exists in a relationship (Folger & Cropanzano, 2001). Fairness should necessarily be made explicit. In Pallot's (1991) views, ethical framework of fairness in terms of accountability differs in terms of distribution; while the former adopts individualistic model the later adopts communitarian. Hence, Pallot (1991) advocates for accountability approach that attaches greater emphasis on communitarian values than traditional individualistic values. That is accountability for community values should be given greater prominence because that is where distributive justice could be rendered. Of course, the notion of moral responsibility is grounded in the accountability of corporate entities to this community (Shearer, 2002). This raises issue of accountability for physical environment termed shared natural assets (Kopp & Smith, 2013).

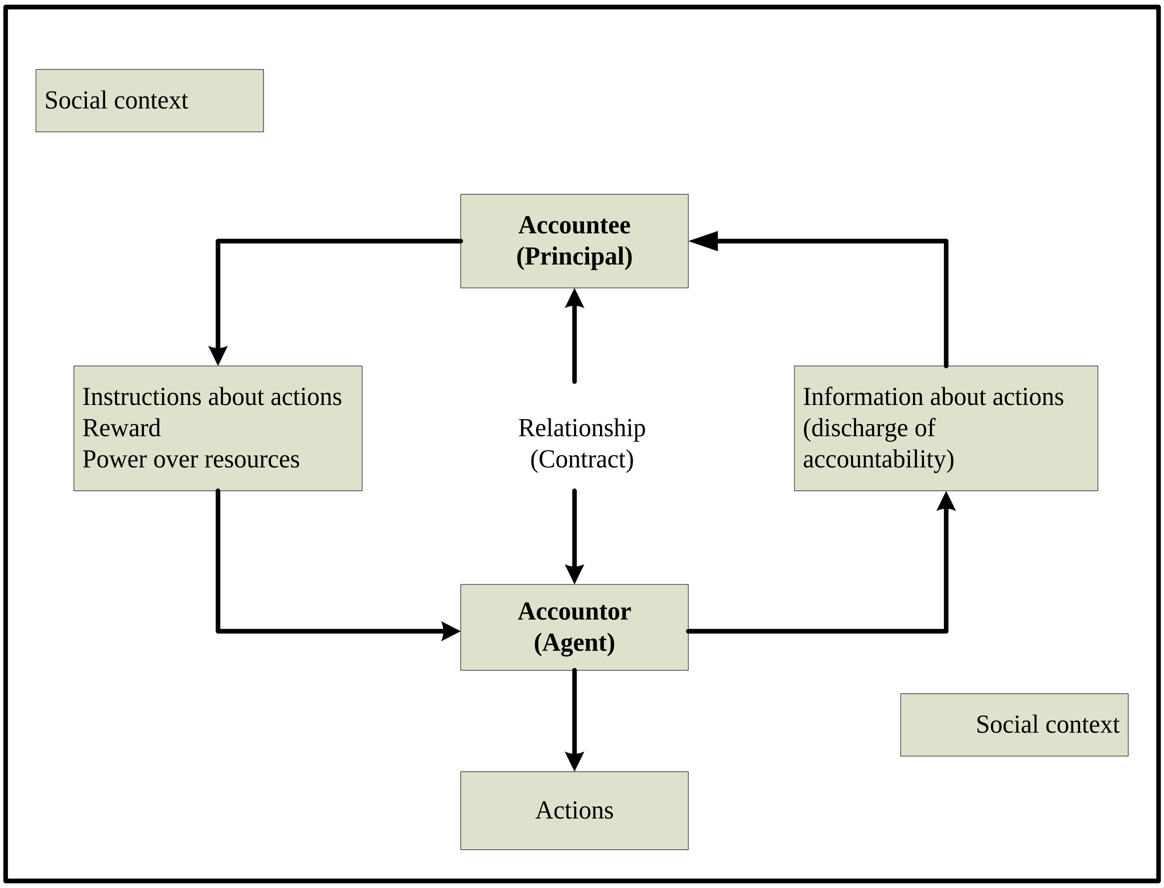
Although there is no clear definition of environmental accountability in literature, the concept is described as 'the actions made on behalf of the organisations and the impacts of resulting activities on the ecological systems' (Burritt & Welch, 1997, p534). They further argue that environmental accountability mechanism cannot function except information about actual (i.e., retrospective) and potential (i.e., prospective) environmental performance are provided to the stakeholders. O'Riordan (1989) describes environmental accountability as 'a metaphor for socially responsible management practice, sanctioned by regular reporting and by demonstrating responsiveness to public interest' (p141). Reporting is made by the agent (Corporation) to the principal (stakeholder). Of course, agents often build various forms of operational structures to undermine public accountability and transparency in such reports (Agyenim-Boateng *et al.*, 2017).

4.5.3 The Features of Accountability

4.5.3.1 Parties in accountability relationship

In general terms, accountability explains the nature of a relationship that exists between two parties. For instance, in a relationship between two parties (e.g., A and B), A is accountable to B, if A is obliged to inform, explain, and justify her actions to B, and B can sanction A if her conduct, or explanation for it, is found to be unsatisfactory (O'Neil *et al.*, 2007). A generalized model portrayed by Figure 4.2 explains the relationship between the parties and the role that society ascribes to it. The model shows a contractual relationship between the principal and agent, which, Gray *et al.*, (1996) argue that they could be individuals, organizations or groups. The person whose behaviour is evaluated by another is termed agent while the principal is the person with responsibility to evaluate the behaviour of agent (Frink & Klimoski, 2004). More importantly, Gray *et al* point out that it is this kind of relationship that ascribes responsibility and permits right to information, and thereby determines the accountability.

Figure 4.2: A Generalized accountability model



Source: Gray, Owen & Adams (1996: 39)

The crucial issue indicated by this generalized accountability model is how the contractual relationship with society is determined. This could be thought of as a series of individual 'social contracts' between members of society and society itself. These contracts provide the basis for the rights of the parties in that relationship – including rights and responsibilities relating to information flows from accountor and accountaee (Gray *et al*, 1996). Corporations disclose information about how they discharge their responsibility, while stakeholders release instructions about necessary actions, which could reward, sanction, or holding of resources (see Figure 2).

Theoretically, accountability arises from a contractual relationship (implicit or explixit) between the accountor, (corporation), which is the person held to render an account and the accountee (stakeholder), the person to whom accountability is due. That is, accountee, termed principal in agency theory, enter into *social contractual relationship* with the accountors, referred to as agent. This contractual relationship is implied when corporation establishes its business in a society of stakeholders. In this relationship, the accountee has the right to receive information and the accoutntor the obligation/responsibility to supply information (Gray, 1992; Arunachalam *et al.*, 2007).

Therefore, in the context of organization, accountability is concerned with an organization admitting that its actions affect the external environment, and therefore assuming responsibility for the effects of such actions (Gray *et al*, 1996; Aras & Crowther, 2009; Adibe, 2010). That is, corporations owe their stakeholders explanation for their actions that affect them negatively. Such explanation is disclosed in the information which organisations release to the stakeholders about their actions. Thus 'accountability involves two responsibilities: the responsibility to undertake certain actions (or forbear from taking actions) and the responsibility to provide an account of those actions' (Gray *et al.*, 1996:38).

4.5.3.2 Answerability and enforceability

Indeed, this type of relationship portrays two dimensions of accountability – answerability and enforceability, sometimes referred to as controllability or sanctioning – which must exist for there to be real accountability (Goetz & Jenkins 2005; Valor 2005). Besides, both dimensions of accountability require transparency (Gray *et al.*, 1996). It needs be said that without reliable and timely information, there would be no basis for demanding answers or enforcing sanctions for unsatisfactory actions.

Thus, answerability is another interested feature in accountability. It describes accountability essentially as a quest for information and justification of actions, a discursive activity and friendly dialogue between accounting and accountable parties. This aspect focus on the obligation of corporate managers to inform about and to explain what they are doing to the stakeholders (Schedler, 1999). This notion of answerability 'indicates that being accountable to somebody implies the obligation to respond to nasty questions and, vice versa, that holding somebody accountable implies the opportunity to ask uncomfortable questions' (Schedler, 1999, p14).

In addition to its informational dimension, that is asking what has been done (retrospective or *ex post* accountability) or asking what will be done (prospective or *ex ante* accountability) and its explanatory aspects (i.e., giving reasons and forming judgements) accountability also contains some elements of enforcement, which involves rewarding good and punishing bad behaviour (Schedler, 1999). The indication is that accounting actors do not just call accountable bodies into questions but also eventually punish improper behaviour and, accordingly, that accountable persons would not only tell what they have done and why, but also bear the consequences of what they have done, including potential negative sanctions.

4.5.4 Assumptions/Implications of TOA

TOA makes two broad assumptions about when the need for accountability arises (Williams, 1987; Pallot, 1991; Folger & Cropanzano, 2001) and the outcome of accountability (Burritt & Welch, 1997; Tetlock, 1999; Jos & Tompkins, 2004; Erdogan *et al.,* 2004). Accountability as a middle level theory (Tetlock, 1999) is assumed to arise where unfavourable condition exists or is anticipated in a relationship (Folger & Cropanzano, 2001). In terms of corporate environmental protection, the need for accountability arises when the host community perceives corporate unfair management of its physical environmental obligations. As it is argued, environmental accountability is more about what a firm *does not do* than what it *does* in its business environment (Gray *et al,* 2014).

Therefore, when an instance of unfair treatment is identified by some people, they are trying to hold someone accountable for an action (or inaction) that threatens others material or psychological well-being (Folger & Cropanzano, 2001). This aspect is closely related to fairness theory which is not examined in detail in this study (Folger & Cropanzano, 2001). The researcher argues that the host community's demand for environmental accountability depends on the way the corporations handle environmental issues.

The second aspect of TOA assumptions which centre on outcome of accountability are:

- First, accountability affects human behaviour by making individuals to anticipate the way others will evaluate their behaviour based on acceptable standards, and the outcome (i.e., rewards or punishment) which are contingent on such evaluation (Frink

& Ferris, 1998, Jos & Tompkins, 2004). The researcher posits that the effectiveness of accountability to shape the environmental performance depends on the strength of the link of corporate mangers' behaviour and contingent outcomes. This aspect of the assumption links to theory of reasoned action (TRA) adopted in this study. The anticipated consequences of failing in environmental responsibility could drive voluntary environmental performance depending on the weight of such consequences.

- Second, accountability links individual/organisation decision makers to the institutions within which they live and work by reminding them of the need to: a) act in accord with prevailing norms and b) advance compelling justifications or excuses for conducts that deviate from those norms (Tetlock, 1999). It is therefore stipulated that organisations will not internalise the societal norms and endeavour to comply with them without a sound system of accountaibility.

- Third, people are motivated to seek approval of others for both intrinsic and extrinsic reasons (Tetlock, 1999). In terms of intrinsic, Tetlock argues that people response automatically to frown of others; while in terms of extrinsic, 'people seek approval primarily in response to *asymmetric resource tendency* (other people control the resources we value to a greater degree than we control the resources they value' (p120). Accountability assumes that business will engage the stakeholders (those in control of resources) in environmental decision-making process. The researcher stipulates that the effectiveness of accountability in driving CSR contribution to sustainability depends on the level of stakeholder participation in environmental decision making.

- Fourth, TOA assumes that the felt responsibility to standards leads to behaviour through expected performance and/or self-efficacy (Erdogan, 2004). That is, accountability can function as a challenge, boosting performance, or as a threat, leading to self-protective behaviour and lower performance (Schlenker & Weigold, 2013).

The researcher stipulates that accountability will highlight the felt needs of the environmental stakeholders in Nigeria O&G industry, and that oil firms will brace up to address those needs through well-tailored social and environmental responsibility programmes, which will lead to significant outcomes in terms of sustainability.

4.5.5 The Critiques of TOA

Establishing operational modality of effective system of corporate environmental accountability based on principal-agent framework could be challenging. The critiques of accountability are concerned with information asymmetry and power deferential (Broadbent & Guthrie, 1992; Parker, 2000). Of course, the imbedded assumption in agency theory centres on the asymmetrical information differentials between the principal and the agent (Eisenhardts, 1989). The problem is that, agent may select the kind of information he wants to give to the principal (e.g. information that would not lead to his indictment).

In the context of stakeholder management, such information asymmetry is said to explain the conflicts of interest, strategic organisational behaviour and the need for regulatory agencies to police such behaviour (Swift, 2001). Stakeholders need information to take informed decisions; however, information, or access to it, is a proxy for power (Swift, 2001). Multinational corporations possess such enormous power, which they often use in manipulating stakeholders' interest away from issues of material concern; or as it is commonly done in Nigeria, provide altruistic and humanitarian services to communities just to turn their attention away from dangerous gas flare, oil spills and environmental degradation (Frynas, 2012; Idemudia, 2009b).

Accountability attempts to redress such power imbalance by institutionalising legal rights to information in a democratic and participative society (Gray *et al.,* 1997). As they add, the most obvious manifestation of these rights could be observed in statute laws (e.g. companies' acts, equal opportunities legislation) and standards established by statutory bodies (e.g. an environmental protection agency, health and safety at work inspectorate). These are the foundation upon which stakeholders could stand to demand for environmental accountability. However, the information flowing through stakeholder relationship is still determined by the power of the parties to demand it (a power which could arise from either the intrinsic abilities and power of the groups concerned or from the legislative processes of the society) (Gray *et al.,* 1997). To be in position to demand for information, there is need for institutionalised civil organisations that operate in the interest of the less powerful stakeholders (Rubenstein, 2007). In Nigeria O&G industry, the significance of the role of individuals and civil society groups in securing accountability is emphasised in Yusuf & Omoteso (2016).

4.5.6 Justification of Theory of Accountability in the Study

In Gray & Bebbington (1993) view, 'the essence of environmental accountability and transparency is that environmental matters are too complex and crucial to be left entirely in the already overburdened hands of corporations' (p316). They further attribute this to lack of necessary information about ecological impacts of corporate activities and firms pursue of fairly immediate financial implications of social and environmental activities (Gray & Bebbington, 1993, p316). As Gray & Bebbington (1993) conclude, 'faith in voluntary development of the mechanisms for environmental and social accountability is therefore misplaced' (p317). Hence, the clear message is that corporations are not to be trusted to enhance social and environmental welfare all by themselves (Burritt & Welch, 1997). It is further argued that formally or informally regulated system of accountability will be required if environmental sustainability is to be achieved (Gray & Bebbington, 1993).

Accountability is a concept that is rooted in responsibility (Unerman & O'Dwyer, 2007), and this responsibility could be discharged through application of a sound accountability procedure (Gray & Bebbington, 1993). Moreover, accountability is more concerned with *unperformed* obligations than performed ones (Gray *et al.,* 2014). By relating a well instituted accountability framework with corporate social/environmental responsibility would mostly draw corporate attention to unperformed social/environmental responsibilities. Therefore, 'the contribution of corporate theory of accountability to corporate sustainability is that it helps define the nature of the relationship between corporate managers and the rest of the society' (Wilson, 2003, p5).

Understanding of such relationship clarifies issues of responsibilities in the relationship, guides identification of what has not been done well in the society of stakeholders, and makes it mandatory to allow the affected stakeholders to participate in decisions on how the environmental situation will be improved. Besides, whether CSR's initiatives mitigate business impacts on society or compensate for them would remain unknown where accountability that establishes measurable minimum performance standards and sets mechanisms for performance monitoring and enforceability is not used as CSR policy guidance.

4.6 Theory of Reasoned Action (TRA)

The TRA and the other behaviour related theory, the theory of planned behaviour (TPB) are all credited to Icek Ajzen (Ajzen, 1991; Kalafatis *et al*, 1999). *The underlying assumption of the TRA is that human social behaviour follows reasonably and often spontaneously from the* *information or beliefs people possess about the behaviour under consideration* (Fishbein & Ajzen, 2010). Such beliefs, as they argue, guide the intention to perform or not to perform certain behaviour. In other words, performance of behaviour is a function of intention.

Two conceptually independent determinants of intentions in TRA according to Ajzen (1991) and Albarracin *et al.* (2001) are: the *attitude towards behaviour*, which refers to the degree to which a person has a favourable or unfavourable evaluation of the behaviour in question; and the social factor termed *subjective norm*, which refers to the perceived social pressure to perform or not to perform the behaviour. The relative importance of *attitude* and *subjective norm* in predicting intention is expected to vary across behaviours and situations; therefore, they can make independents contributions to intention (Ajzen, 1991). Since attitude and subjective norm can make independent contribution to intention, the researcher tests only the subjective strand of the theory.

In the present study, *it is assumed that the intention of corporate managers of oil MNCs is not determined by their attitude towards environmental behaviour but the subjective norm, which is the way they perceive the external social pressure from environmental stakeholders, and international communities*. Thus, the postulate is that intention is the function of the perceived social pressure, which is subjective norm. As it defined in Ajzen (1991) and Albarracin *et al.* (2001), the subjective norm is the perception that the important some persons think that one should or should not perform the behaviour in question. That is, corporate managers' perception of pressure (subjective norm) will influence their intention to improve their CEP, and intention will influence actual CEP.

Figure 4.3: Conceptual Model of CEP Based on Modified TRA

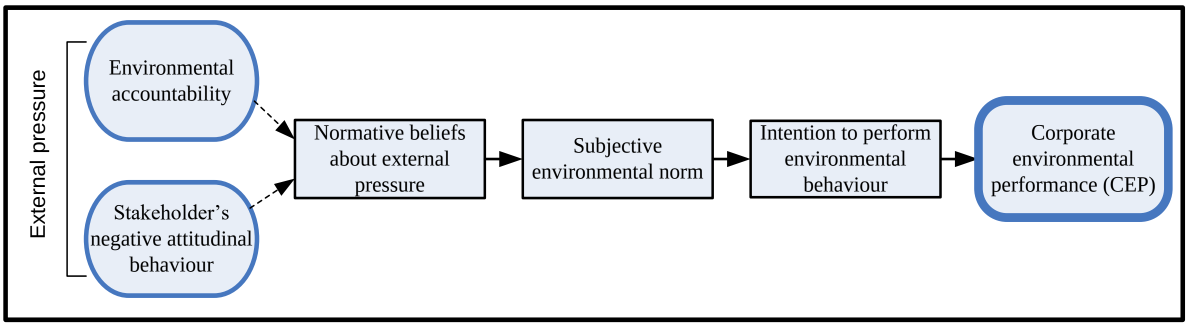


Figure 4.3 portrays the nature of these relationships. Two basic external factors that are assumed to influence the subjective norms are demand for environmental accountability and stakeholder's negative behaviour towards business organisation. From the figure, the broken

arrows that connect external factors to corporate normative beliefs about such factors indicate that corporate managers often contemplate on external pressure. The full arrows link the outcome of such contemplation (i.e. perception about the potential of the stakeholders) to the *subjective environmental standard* and then to *intention* to perform the desirable environmental behaviour. In other words, the perception of corporate managers about external factors such as strong civil society, strong voice of local communities, NGOs and all other accountability apparatus could influence their intention to improve corporate environmental behaviour.

4.6.1 Application of Theory of Reasoned Action

The TRA, which originated from the expectancy value theories in the field of social psychology, has been used extensively in intentional behaviour research (Shepherd & Raats, 1996; Thompson & Thompson, 1996; Bok, 1996; Kalafatis *et al,* 1999). Business and management research scholars have made significant advances by applying the psychological knowledge, based on this theory, in understanding and predicting intentional behaviour (Hillenbrand *et al.,* 2013). In marketing research for example, Komiak & Benbasat (2006) and Walsh *et al.* (2009) used the principle of TRA to predict the buying pattern of future customers. Aside from marketing, TRA has been used in organisational behaviour research. For example, Van Breukelen, Der Vlist & Steensma (2004) used the theory to predict staff retention and commitment behaviour.

In studying the environmental behaviour, Follows & Jobber (1999) employ the theory in predicting environmental responsible purchasing behaviour. CFA and SEM were used in analysing and predicting the purchase behaviour. However, since there was no previous questionnaire, Follows & Jobber used the first 334 set of samples to test the data collection instrument before they used a new set of data (160) to test the structural relationships. The environmental and individual consequences were captured as two main factors that influence environmental responsible purchase intention. The findings confirm that environmental consequences of a product can influence a purchase decision.

Cordano & Frieze (2000) adopt the extended version of TRA, which is theory of planned behaviour (TPB), to predict pollution reduction preferences of U.S environmental managers. It needs be mentioned that the *perceived behavioural control* is the strand of intention predictive factor that differentiate TRA from TPB. Cordano & Frieze also use structural equation analysis to link the source of pollution reduction preferences of 295 environmental managers to their pollution prevention attitude, perception of norms for environmental regulation, and their perceived environmental behaviour. The findings suggest that environmental managers had positive attitude towards pollution prevention but felt little pressure to implement environmental performance beyond regulatory requirements. In the present study TRA is used to examines factors that could influence environmental behaviour of managers of oil firms.

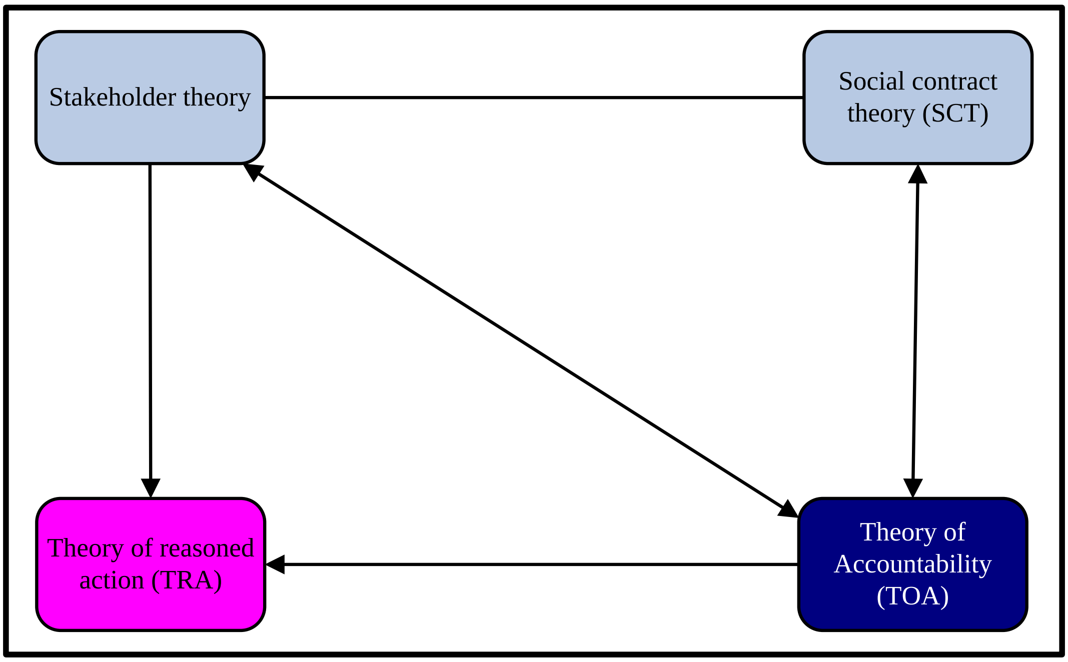
4.6.2 The Justification of TRA in the present study

Indeed, the theory is deeply concerned with understanding of the factors that influence the behaviour of an individual or group of people (Hillenbrand *et al.*, 2013). One of these factors referred to as *normative beliefs* is external to the person or persons that perform the behaviour and can facilitate or inhibiting *performance* of the perceived behaviour (Fishbein & Ajzen, 2010). The 'theory of accountability has largely been one of explaining reactions to anticipated reviews' (Frink & Klimoski, 2004, p9). It forms the basis of reasoned action taken by the corporation to avert the negative consequences. Besides, corporate managers' normative *beliefs about* the possible consequences of the actions of the external stakeholders and organised civil society can drive intentional action taken to avert such consequences (Fishbein & Ajzen, 2010).

4.7 Inter-Relationship of the Theories Used in the Study

As Morris (1987) asserts if two theories that deal with the same subject are to be employed in a single study, certain assumptions should exist. For instance, in Figure 4.4, two theories (stakeholder and social contract) are equivalent, they deal with the same matter (e.g., corporate-community relationship) but in a separate way. This is shown by straight line connection. The single headed arrow indicates a theory that implies the other: that is, one is a subset of the other (e.g., reasoned action is a subset of external influence of accountability and stakeholder pressure). The double headed arrows show the theories that are consistent (i.e., if there is a stakeholder relationship, there is accountability). These four theories are interconnected, and they jointly explain what could lead to corporate use of CSR initiatives to contribute to environmental sustainability in developing countries.

Figure 4.4: Inter-Relationships of the Theories



Source: Developed by the researcher

The notion of 'accountability envisages the relationship between an organisation and the society in a principal-agent setting' (Alrazi *et al.*, 2015, p45). In the context of environmental management, Power (1991, p33) states that '… in pollution control, society (*stakeholder)* may be regarded as the principal, and the polluter (*business organisation*), whose actions cannot be fully monitored, as the agent' (Italic added). An agent is under obligation to render account to the principal. Power (1991) extends the original principal-agent relationships to include the accountability to the society because of the environment. Of course, 'the relationship with stakeholders is one of accountability of the organisation to the later' (Cooper & Owen, 2007, p654). These are the three main theories adopted in this study. The fourth theory (TRA) is employed as means of providing further explanations on what could influence oil firms' intentional improvement in their environmental behaviour.

Indeed, stakeholder theory, as pointed out in Gray *et al* (2014) could be understood easily under the political metaphor (i.e., through its link to social contract) or the rationalist metaphor (i.e., through its rational management link). Gray *et al* (1996) give impression that stakeholder theory has two variants perspectives. They assert that the first variant relates to accountability. That is, 'the organisation-stakeholder interplay can be seen as a socially grounded relationship which involves responsibility and accountability' Gray *et al.,* (1996, p45). As they argue, the nature of accountability which is determined in this relationship(s) of the stakeholder with the organisation is normative. Therefore, accountability approach could be adopted in managing the relationship with the stakeholders on normative basis.

4.8 Chapter Summary

The theoretical underpinnings of the study were discussed in this chapter. It started with brief discourse of the relevance of theories in empirical research and followed by stakeholder theory. The main stakeholder perspectives on CSR contribution to ES were discussed under normative, descriptive and instrumental. The study adopts instrumental and normative perspective of stakeholder theory. The social contract was also discussed. These two theories explain the nature of the relationship between the communities and firms. The theory of accountability was used in explaining the responsibility in this relationship, and ways firms could make better contribution to ES using CSR initiatives. TRA was used to explain the possible outcome of external pressure and radicalism on corporate behavioural intention to adopt ES policy and practice voluntarily. The inter-relationships of these theories were examined to ensure coherency and that they all explain ways firms could use CSR initiatives to contribute to ES in the absence of strong legal institutions. In the last section of the chapter, the gap in literature was identified, which is the unexplored perception of stakeholders on the role of accountability in boosting CSR contribution to ES. The study's theoretical framework and the hypotheses are developed in the next chapter based on the literature and the context of the present study.

CHAPTER 5

THEORETICAL FRAMEWORK OF CES AND HYPOTHESES DEVELOPMENT

All beliefs about the matters of fact or real existence are described merely by something that is present to the memory or senses, and are a customary association of that with other things (David Hume, 1711 – 1776).

… when a new order of phenomena becomes the object of a science they are already represented in the mind, not only through some perceptions, but also by some kind of crudely formed concepts (Emile Durkheim, 1858 – 1917).

5.1 Introduction

The theoretical underpinnings in the previous chapter establish corporate-stakeholder relationship and the nature of the responsibility in such relationship. In this chapter, the inter-connectedness of the CSR and environmental sustainability concepts drawn from the extant literature and related theories are modelled to guide the development of informed theory-based hypotheses necessary for the investigation. The chapter starts with discussion of theoretical framework of the study, and then development of hypotheses used in testing the framework. The last section presents the chapter summary.

5.2 Theoretical Framework of CES

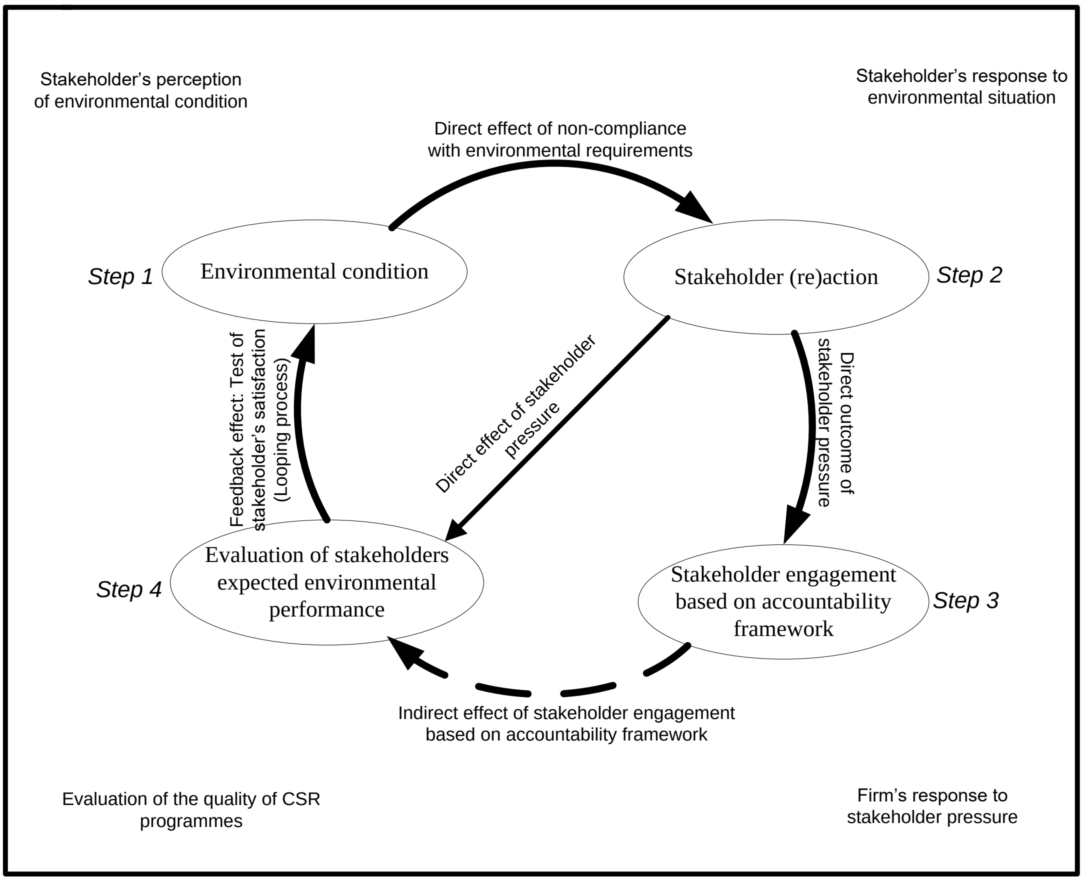
The framework draws from the work of Frances Bowen: "Environmental visibility: a trigger of green organisational response" (Bowen, 2000), and offers a holistic approach to factors that could lead to CSR contribution to environmental sustainability. In Bowen's framework, four types of environmental visibility are identified: organisational visibility at the corporate level, organisational visibility at the operating level, issue visibility at the operating unit level, and issue visibility at the corporate level. A brief qualitative test of this framework suggests a positive relationship of environmental visibility with green organisational response.

In addition, Bowen argues that 'environmental visibility may provide an explanation for why some firms can apparently get away with introducing environmental policies, but not implement them' (p97). That is, in policy statement managers give impression that they will address the environmental situation, but they fail to. Such scenario indicates environmental policy implementation problem (Maxwell *et al.,* 1997) and points to the need for a holistic theoretical framework that factored in an intermediary facilitating variable that could ease implementation problem. Ketola (1997) points out that firms routinely break the promises they make in their environmental policy statements.

Implementation problem is more pronounced in the developing countries with weak institutional factors, legal systems, governance and regulation of MNCs (Yusuf & Omoteso, 2016). Consequently, the framework incorporates APCSR as an intermediating factor with possibility to boost CSR contribution environmental sustainability. The theory of accountability does not only explicate the embedded *responsibilities* in stakeholder relationship (Gray *et al,* 2014) but it also sets out clearly the *mechanisms* required to discharge such responsibilities (Wawryk, 2003). Previous studies have focussed on what could lead to corporate discharge of the *responsibility* aspect of accountability (Newell, 2005; Adams & McNicholas, 2007). The role of strong state regulatory agencies is considered paramount (Alder, 1995; Huang *et al,* 2009). While the present framework does not belittle the role of state agencies by any means, it examines other factors that could trigger the need for environmental accountability and what accountability could lead to, in terms of corporate environmental performance/compliance outcomes.

The starting point of the framework is Bowen's organisational visibility from the operating unit level, captured by the environmental condition (see Figure 5.1). Firms which are embedded in the local community such as Ogoni in Niger Delta and firms that have previous legitimacy breaking incidents are considered more visible (Wakefield *et al,* 2001; Lozano, 2015). They should expect external pressure and negative reaction from the local community (Wakefield *et al*, 2001). A brief overview of the second Chapter of this thesis clarifies the concept of a *corporation being visible environmentally at its operating unit level*. The model, invariably, portrays the environmental situation in both developed and developing countries. External stakeholders could be environmental activists, host communities, local social movements and NGOs at national and international level.

Figure 5. 1: Four-Step Model of CSR Contribution to Environmental Sustainability



Source: Developed by the researcher from literature reviewed

The framework presents four steps to CSR contribution to environmental sustainability (Figure 5.1).

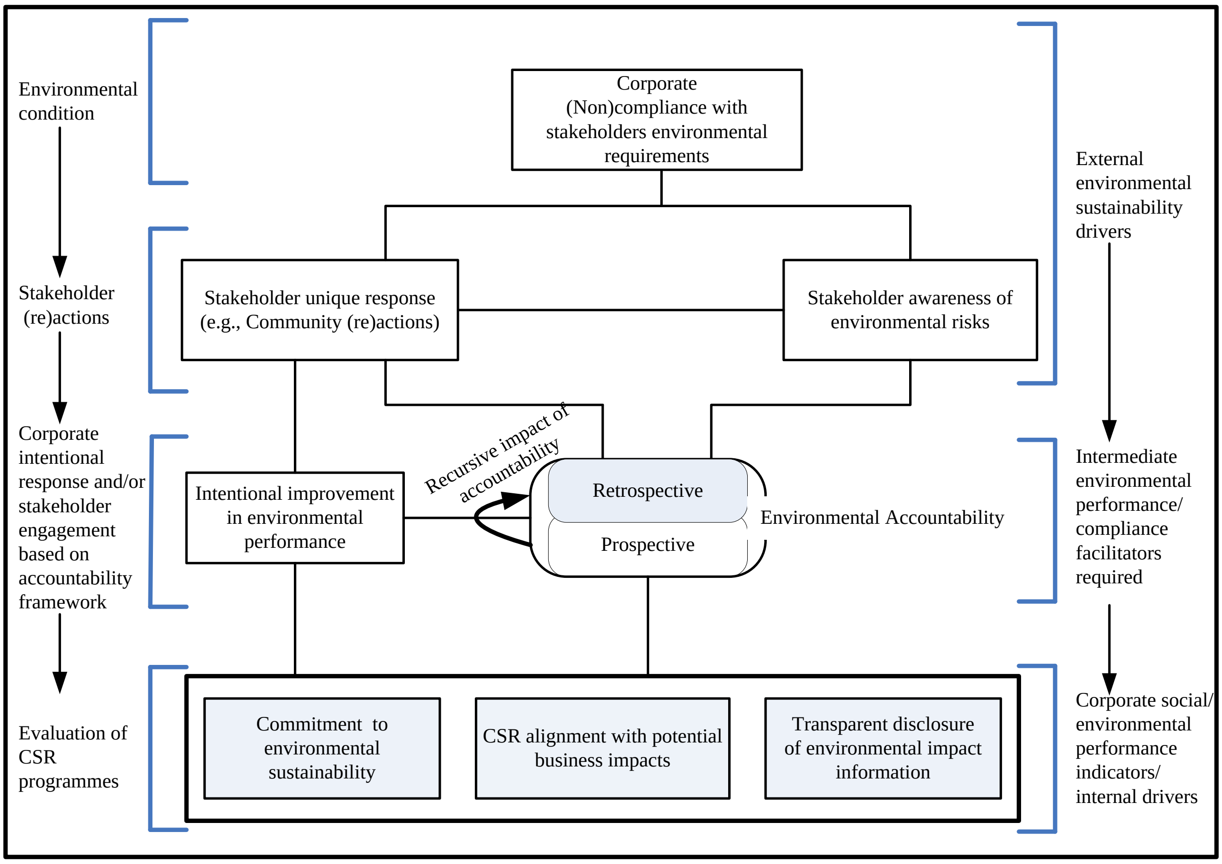
i. Step one: Observation of the extant environmental condition in an industrial area (i.e. the stakeholders (society) examine *corporate visibility at the operating unit level* to discover the extent to which firms perform their environmental obligations.).

ii. Step two: Stakeholder reflexive environmental risk awareness and reactions (i.e., even where firms are considered to meet the existing state regulatory requirements, new development may warrant new actions based on emerging situation. Stakeholder reaction demonstrates their dissatisfaction with firms' environmental behaviour and it triggers the need for firms' accountability procedure.

iii. Step three: Reorientation of social/environmental responsibility approach (i.e., development and implementation of a new strategy that could boost environmental performance to the satisfaction of the stakeholders).

iv. Step four: Evaluation of environmental performance (i.e., improvement is in continuum and judged by the satisfaction of the stakeholders).

Figure 5.2: Theoretical model of CSR contribution to environmental sustainability



Source: Developed by the researcher from literature reviewed

The detailed breakdown of the model is presented in Figure 5.2. The framework discusses the external driving factors (non-compliance with environmental requirements, pollution risk awareness, and community reaction) linked to corporate performance indicators (commitment, CSR alignment, and transparency); and the role of *accountability* and *intention* as intermediating variables in the model. The model is assumed to satisfy the following conditions:

1) Independent variable (Non-compliance) will influence the dependent variables (environmental risk awareness and community reactions)

2) Independent variables (environmental risk awareness and community reactions) will trigger the need for intermediating factors (accountability and intention) and

3) Intermediating factors, accountability and intention, will independently influence the dependent performance variables (Commitment, CSR initiative alignment and environmental transparency)

4) Expected corporate social and environmental behaviour will likely be better under accountability regime than when based on intention. Stakeholders satisfaction will more likely be achieved under accountability than when based on only intention.

Each of the stages is discussed further as follows:

5.2.1 Step One: Recognition of Extant Environmental Condition

Firms' environmental friendliness is judged by the status of the physical environment in which they carry out their business activities. It is the environmental visibility that triggers various actions taken by society, state and business to address environmental issues (Bowen, 2000). The environmental visibility portrays the manner which individuals and business organisations use natural environment. Brundtland Commission Report (WCED, 1987) emphasises using natural resources conservatively. This conservative approach suggests that the move towards environmental sustainable action requires a fundamental assessment of our activities and that of organisations (Roome, 1992).

Two critical aspects to problem of environmental conservatism are identified by Roome (1992) as *recognition* and *transformation*. Recognition, according to Roome, 'describes the need for society and individuals to acknowledge that their current lifestyles and activities contribute to environmental change on a significant, potentially life threatening, scale' (p11). While transformation, on the other hand, 'concerns the responses that follow on from the recognition, as pathways to more sustainable form of resource use is sought out, identified and implemented' (Roome, 1992, p11). The starting point is recognising the condition of the environment and the activities that threaten quality of life in such environment. The next step which involves transformation, as suggested in Roome, is identification and implementation of pathways to sustainability (this aspect is considered in the third step of this model). The question is what is the present environmental condition, particularly in extractive industries in developing countries? Do businesses perform their environmental obligations?

In the developing countries, it is apparent that some firms do not perform their environmental obligations. Hence, the corporate environmental behaviour is considered to be unacceptable and the present environmental status is viewed as "bad" (see Section 2.6.3 of Chapter 2). Bad state of environmental status shows corporate non-compliance with environmental standards (Roome, 1992; Henriques & Sardorsky, 1999). This demonstrates that firms in such environment have failed in performing their environmental obligations (Simon *et al.,* 1993). In O&G industry, non-performance of this duty is visible because the environmental impacts are observed at all stages of production (Frynas, 2012).

5.2.2 Step Two: Stakeholder Reflexive Environmental Risk Awareness and Reactions

The environmental situation often generates negative publications in the media about the polluting firms (Lozano, 2015). The *real* and *speculative* risks of the environmental pollution most of the times appear in the pages of the dailies. The whole environmental stakeholders: firms, government, and the community (Eweje, 2007) will be attracted to the scene, and awareness will be raised. The risks would be perceived, investigated and interpreted by the affected stakeholders in several ways. Based on risks awareness and perceptions, environmental stakeholders often initiate actions that would lead to corporate change of their environmental behaviour (Wakefield *et al.,* 2001). In developing countries where environmental regulatory framework is relatively weak, firms rarely respond to risks awareness.

In real terms, the risk perceptions keep changing. In Giddens (1994), stakeholder reaction depends on the reflexively developed awareness of the risks inherent in environmental pollution of an industry. That is, as the affected communities process latest information about the nature of risks associated with certain pollution, they are likely to take actions that could influence corporate improvement of environmental behaviour. Giddens (1994) further argues that as technology grows and information about previously unknown risks emerges, the stakeholders will continue to pressure for improved environmental quality. This gives impression that even in developed economies the environmental issues still attract the attention of external stakeholders.

Of course, it is the responsibility of those in charge of state governance to put in place a framework that underpins the principles, policies, laws and regulations that guide economic and business activities and ensure of the compliance thereof (Omoteso, 2011). A few studies have shown that in the absence of strict environmental regulation and strong enforcement, communities have emerged as informal environmental regulators (Hettige, *et al.*, 1996;

Henriques & Sadorsky, 1996; World Bank 2000; Phuong & Mol, 2004). They often respond to environmental risks awareness. The empirical investigation of Phuong & Mol (2004) suggest that even though people are sometimes poorly educated, and are economically and socially dependent on the industrial activities, when being affected by industrial pollution they can still react strongly against polluting firm and ask for corporate improvement of environmental quality. In most developed countries governments respond to environmental risks awareness by imposing new environmental law or regulation that addresses the situation.

5.2.3 Step Three: Reorientation of Social/Environmental Responsibility Approach

Positive response is often expected when stakeholders recognise the business pollution threats and react against it (Schwartz & Carroll, 2003). From instrumental perspective of stakeholder management, firms would do something to avoid stakeholders' actions that could be detrimental to business economic performance and reputation (Orlitzky *et al.*, 2003; Brammer & Pavelin, 2004). One of steps in such responses from firms is rethinking of environmental management strategy. Given previous environmental policy implementation failure or the concept of restrained commitment to environmental issues (Maxwell *et al*, 1997) and the fact that firms routinely break the promises they make in their environmental policy statements (Ketola, 1997), the stakeholders will most likely opt for environmental management approach that will involve them. Such approach is proposed as accountability.

5.2.3.1 The rationale of accountability approach

The *fairness theory* holds that where the unfavourable condition exists (i.e., a negative state of events relative to a given frame of reference), and such negative event is due to someone's volitional or discretionary conducts that violate ethical principle of interpersonal conduct then the need for accountability arises (Folger & Cropanzano, 2001). In other words, demand for accountability strategy follows closely the existence of an *unfavourable condition* that is *attributable* to person(s') discretionary conducts that *violate* applicable moral principle. In real terms, environmental condition can be considered as good or poor. Studies drawing evidence from Niger Delta region conclude that the physical environment is poor (Frynas, 2001; 2012; Eweje, 2006). Poor condition of environment relating pollution to business operation shows corporate non-compliance with environmental standards (Roome, 1992; Henriques & Sardorsky, 1999).

Viewing the activities of oil MNCs in Niger Delta in the lens of fairness theory, indicates existence of three basic prerequisite assumptions that precede the need for a system of accountability. The voice of the people of Niger Delta has echoed their *unfavourable condition* of environment to the international community (Ikelegbe, 2005; Fagbohun, 2007; Babatunde, 2010; Edoho, 2008); and pumping of oil in over-aged pipelines certified to have reached the end of its life many years ago, (BBC, 2014) demonstrates *discretionary conducts* that *violate* sound environmental moral behaviour of oil firms' managers. Therefore, need for environmental accountability to the affected stakeholders emerges. This implies participation of stakeholders in environmental decision-making process.

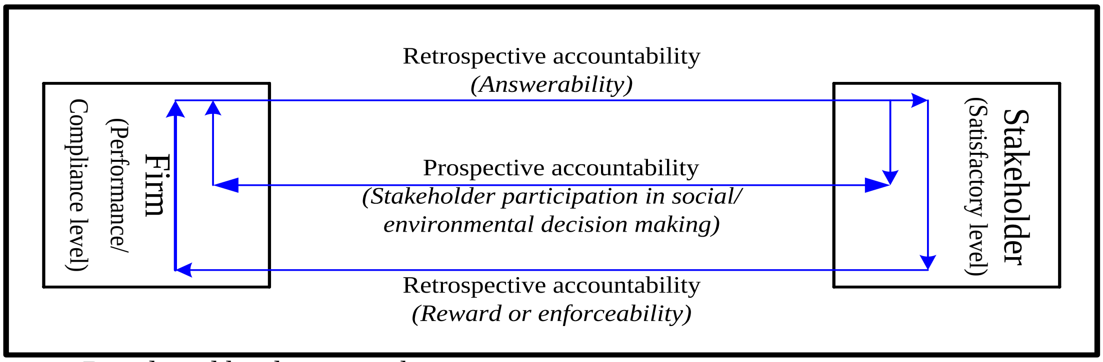
Of course, stakeholder participation strategy in environmental management decision-making is increasingly encouraged from local to international scales (Stringer *et al.*, 2007; Idemudia, 2009a). In Agenda 21 it is stated that 'one of the fundamental prerequisites for the achievement of sustainable development is broad public participation in decision-making' (Agenda 21, Chapter 23, Section 23.2, Online). The question is about the effectiveness of the participation strategy in enhancing environmental sustainability without a robust system of environmental accountability.

Social/environmental auditing is a major mechanism in accountability to the stakeholders. In terms of social auditing, Elkington (1998) defines it broadly as a process that enables an organisation to assess its performance in relation to society's requirements and expectations. Hence, environmental auditing could also be defined as assessing corporate environmental performance in relation to stakeholders' requirements and expectations. The process involves three specific stages, which are:

- identification of key stakeholders;
- initiation of a process of consultation with each stakeholder group, which allow them to establish criteria against which they feel companies' social/environmental impact and ethical behaviour should be judged; and
- assessment of the organisation's activities on this basis (Juscius, 2007).

Environmental accountability enables stakeholders to involve, to a certain extent, in the second and third stages. They are those to assess whether the performance is satisfactory.

Figure 5.3: Corporate environmental accountability model



Source: Developed by the researcher

Specifically, environmental accountability has two faces, namely: "accountability for environmental obligations" and "mechanics of better environmental accountability" (Gray *et al*, 1996; Schedler, 1999; Wawryk, 2003). While the first aspect is concerned with *retrospective accountability* the second focuses on the *prospective accountability* (Gray *et al*, 1996). In Figure 5.3, accountability system starts with retrospective accountability, the outer-layer one-way flow of accountability (essentially answerability and enforceability). The typical example is presentation of Annul Reports to the financial stakeholders (shareholders) at the Annual General Meeting. Their reaction, which include applause, promotion, or sacking and replacing of Chief Executive Officer follows the outcome of past business performance. The flow is mostly one-way.

The stakeholders use information from retrospective accountability to assess the environmental performance of firms and establish cases of corporate unfairness in handling environmental issues. Based on the performance level, firms can be rewarded with patronage or penalised with sanction, protest, product boycott and so on. The need for *prospective accountability* arises where the environmental performance is unsatisfactory, and the decision of the stakeholders becomes imperative. Therefore, retrospective accountability entails engagement with stakeholder in dialoguing and making environmental decisions. Such decisions are expected to improve subsequent environmental performance. The cycle continues recursively.

The retrospective and prospective accountability would allow for informed explanation of Kolk & Mauser (2002)'s *lagging* and *leading* indicators of environmental operational performance to the affected stakeholders. In other words, there are *performance-based accountability* that focuses on the outcomes and results of the past activities and *compliance-based accountability* that is concerned with *laying down rules*, *processes* and *procedures* which could guide subsequent performance (Carman, 2010).

Chinander (2001) considers *performance-based* accountability as internal driver of environmental performance. Chinander's argues that top management commitment to environmental sustainability is not enough to obtain to the desired results; rather appropriate organisational infrastructure such as a robust accountability system is needed. Assuming top management commitment, the focus is shifted to improvement in the quality of performance of employees saddled with the responsibility of corporate environmental protection and control. Therefore, with the embedded sanction/reward apparatus performance based accountability is posited to boost environmental sustainability.

'Traditionally, accountability has involved defining rules and procedures and then employing various means to ensure compliance with these expectations' (Jos & Tompkins, 2004, p257). Thus, compliance-based accountability is exercised through environmental audits, investigations, and reviews of past performance with aim of establishing whether rules have been broken; where this happened, how to impose a punishment that will be appropriate to the violation; and indicate whether the punishment will deter future transgressions (Jos & Tompkins, 2004). Following such rules and procedures in accountability to environmental stakeholders is proposed to improve the quality of environmental performance to the satisfaction of the interested parties.

5.2.3.2 The nexus of intention with accountability and stakeholder reaction

Viewing the function of accountability from assessing of the justifiability of response actions perspectives, Tetlock (1999) argues that people often engage themselves in *internalised dialogue* of the form: 'If I did this what would others say? What would I say in return? What conclusions should reasonable observers draw about my competence or character?' (p119). This is a kind of cognitive psychology where one judges his actions before being taken. This perspective makes accountability implicit, especially with regards to intention to take an action. It demonstrates voluntary accountability for intentional actions. The impression is that the thought of justifying actions (or inactions) in a strong accountability system has the tendency to influence someone's level of environmental performance. That is, corporate managers' perceptions about a strong accountability system that incorporates performance reviews, rewards and sanctions can influence their intention to address the subject of concerns to the audience (Frink & Ferris, 1998). Therefore, theory of accountability has largely been one of explaining reactions to anticipated reviews (Frink & Klimoski, 2004).

Also, depending on the perceived power of the stakeholders and organised social movements in an industrial zone, corporate managers' response to social/environmental issues would follow their psychological or normative *beliefs about* the possible consequences of the actions of the external stakeholders and the international community (Fishbein & Ajzen, 2010). The point is that existence of strong local social movements might influence corporate managers' voluntary improvement in environmental behaviour. This proposition is in line with Higgins (1999) 'aboutness principle'. The assumption is that 'when a response occurs, it is about something' (Higgins, 1999, p37). The response, for instance, could be improving environmental behaviour to avoid communities' reaction. This manner of response provides the observers with information to take *reasonable action* to avoid certain negative external reactions. That is, *proactive* environmental initiatives might be taken voluntarily to avert unpleasant consequences of failing to improve upon the environmental behaviour (Henriques & Sadorskey, 1999; Russo & Fouts, 1997; Gonzalez-Benito & Gonzalez-Benito, 2005).

5.2.4 Step Four: Evaluation of Social/Environmental Performance

Corporate improvement in social and environmental conduct is often expected when external stakeholders demonstrate their dissatisfaction on firms' level of pollution. Following the proposed change in the environmental management system, the improvement in the environmental sustainability indicators will necessarily be evaluated by constituents of stakeholders. Such improvement could be observed in firms' *commitment* to the physical environmental sustainability, which would be reflected in three interconnected environmental management strategies – pollution prevention, product stewardship, and sustainable development (Hart, 1995). These strategies of managing legitimacy threats linked to non-compliance with environmental requirements differ from *distraction* and *impression* management strategies, which as pointed out in Lindblom (1994 cited in Jenkins, 2004, p 30) are concerned with

- informing stakeholders about intended improvements in performance,
- seeking to change stakeholders' perceptions of the event,
- distracting attention away from the issue, and
- changing external expectations about its performance.

Specifically, commitment demonstrates corporate practical concern with social and environmental wellbeing of the wider stakeholder by 'integrating the "voice of environment," that is, external stakeholder perspectives, into product design and development processes' (Hart, 1995, p993). That is, what gives stakeholders environmental concern would be considered proactively when developing environmental management strategies. Hence, firms will most likely be transparent in their environmental impact assessment (EIA) reports and when disclosing social and environmental impacts of their business (Wawryk, 2003). Besides, accountable organisations would likely gear their CSR initiatives towards mitigating the social and environmental effects of business activities on the communities (Donaldson & Preston, 1995; Deegan, 2007). This is a form of compensatory justice which 'is concerned with determining how individuals should be compensated for the harm done by others' (Baron, 2006, p750).

5.3 Gap Identified in Literature

The environmental problems in oil rich Niger Delta region of Nigeria have created a huge concern for many stakeholders. Despite the basic assumption that the idea of corporate social responsibility (CSR) was originally framed to focus on stakeholder issues, theoretical and empirical evidence of what it could achieve are often drawn from business (Hillenbrand *et al.*, 2013). The perspectives of the stakeholders, particularly in the context of developing countries, are relatively scarce in literature (see, Dare *et al*., 2014; Smith *et al*, 2008; Syn, 2014; for exception). The importance of this perspectives revolves around the need to understanding business impact on the society and to reduce mining resistance by the natives (Jenkin, 2004). The existing literature contests the impact and the effectiveness of the CSR initiatives in addressing the environmental and social challenges of the marginalised communities in some oil rich countries (Blowfield & Frynas, 2005). Evidence abound which suggest that companies in O&G industry fail to comply with the 'social license to operate' and there is a mismatch between their espoused CSR policies and the environmental and social problems on the ground (Eweje, 2007; Frynas, 2001).

Previous studies, based on perceptions of corporate managers and samples from developed economies, have identified several factors that could influence corporate environmental conduct. Some of them are environmental visibility of the industry with evidence drawn from firms in the UK (Bowen, 2000); environmental risk awareness with evidence drawn from Australia (Gadenne *et al*., 2009); community (re)action to environmental risks with evidence from Canada (Wakefield *et al*., 2001); intentional pollution reduction with evidence from environmental managers of manufacturing firms in the US (Cordano & Frieze, 2000); informal pressure from stakeholders with data from Spain (Sarkis *et al*., 2010), Canada (Henriques & Sardorsky, 1996) and US (Kassinis & Vafaes, 2006); and state environmental regulatory pressure with data drawn from firms in Spain (López-Gamero *et al.*, 2010).

Specifically, in studying why companies adopt environmentally responsible behaviour, Cetindamar & Husoy, (2007) used United Nations Global Compact initiative as a CSR mechanism to collect and analyse sample from 29 Global compact participants. The findings suggest that companies have more than one reason for using CSR initiatives to contribute to sustainable development, and that *ethical* and *economic* reasons co-exist (Cetindamar & Husoy, 2007).

Other empirical findings indicate that voluntary corporate self-regulation leads to proactive environmental performance (Anton *et al.*, 2004; López-Gamero *et al.*, 2010). Anton *et al* (2004) investigate factors that could lead to differences in quality of environmental management systems employing sample of S&P 500 firms. The findings suggest that firms in the West are shifting from regulatory-driven environmental management to self-regulated proactive environmental management driven by the market-based incentives.

Corporate self-regulatory pressure has been found wanting in driving responsible environmental behaviour of firms in most pollution intensive industries (Kolk *et al.*, 1999). They argue that many of the codes of conduct are very vague and 'this renders monitoring and sanctions useless, if they exist at all' (Kolk *et al.*, 1999; p179). In other words, industrial-based self-regulation fails because of lack of enforceability mechanism. This mechanism is a key concept embedded in accountability system.

Moreover, Henriques & Sadorsky (1996) use survey strategy to study the determinants of environmental responsiveness (i.e CEP) among 400 firms in Canada and the findings suggest that government regulatory pressure, neighbourhood and community (stakeholder) pressure relate positively with corporate environmental performance (CEP). The studies of Dasgupta, Hettige, & Wheeler (2000) and Christman (2004) also point to state institutional pressure as determinant of social/environmental performance.

State regulatory pressure does not make any considerable influence on the environmental behaviour of firms in most less developed countries (LDCs) because of its weakness (Strange, 1996; Tsikata, 1997; Graham & Woods, 2006). Such weakness is linked to poor rule of law, absence of government administrative capacity, and weak bargaining power with regards to

Northern-based multinationals who are wielding enormous resources of financial capital, technology, and employment opportunities (Khan, 1994).

Besides, Moneva & Ortas (2010) employ EFA and partial least squares (PLS) technique to study the relationship of CEP with corporate financial performance (CFP) using a sample of 230 companies in 18 European countries. The findings indicate a positive relationship between CEP and CFP. Considering causal relationship, the study of Moneva & Ortas (2010) and Brammer & Pavelin (2006) present what corporations could benefit by using CSR initiatives to contribute to environmental sustainability. These benefits are suggested as the driving factors behind CSR policy and practice. To Moneva & Ortas the motivation is increased financial performance. Gray *et al.* (2014) suggest further investigation of this relationship. They argue that if spending on social and environmental activities could enhance financial performance, then managers that do not invest in such activities should be fired. The study carries the strategic and/or business case undertone (Lantos, 2001; Unerman & O'Dwyer, 2007).

However, the idea of CSR was conceived out of the need for firms to address social/environmental impacts of their business on the society (Buchhoiz & Rosenthal, 1999; Blowfield, 2007; Carroll & Shabana, 2010). Blowfield (2007) submits that the impact of CSR on business itself and the benefits business derive from CSR are well known while less is known about how CSR affects the major social issues it was intended to tackle. Evidently, firms are reluctant to undertake social/environmental responsibilities where immediate benefits cannot be modelled into the equation (Jamali, 2008). Broadly, CSR activities can be regarded as firms' contribution to sustainable development (Bansal, 2005).

In summary, regulatory pressure (Christman, 2004; López-Gamero *et al.*, 2010), stakeholder pressure (Henriques & Sardorsky, 1996; Kassinis & Vafaes, 2006; Sarkis *et al*., 2010), environmental visibility (Bowen, 2000) and environmental risk propensity (Wakefield *et al*, 2001) are suggested as key drivers of corporate social/environmental responsiveness of firms. In LDCs, characterised by weak state governance (Khan, 1994), the external pressure from stakeholders is the major driver of CSR contribution to sustainable development (Wood, 1995; Idemudia, 2014b; Boele *et al.*, 2001a, 2001b). Institutional governance could be assessed by CSR policies and practices (Demirag, 2005). That is, where there is week governance, firms may be socially irresponsible. Such irresponsibility will be reflected in their environmental performance.

The focus of studies on corporate responsiveness to informal pressure in LDCs has been on social and economic aspects of sustainable development (Ite, 2005; Eweje, 2006; Idemudia, 2007a; Idemudia, 2007b; Amadi & Abdullah, 2012). Evidence about contribution of CSR to environment sustainability in LDCs, particularly in Africa, is relatively scarce. In other words, CSR programmes are not based on corporate level of environmental visibility as suggested in Bowen (2000).

Indeed, there are three interrelated elements of sustainable development, viz: economic, social, and natural environment (Garza, 2013; Dyllick & Hockerts, 2002; Moon, 2007). Lozano (2008) argues that environmental component of sustainable development is neglected in LDCs where basic human needs (food and shelter) are not fulfilled. The researcher agrees with Lozano; however, as emphasised in Dyllick & Hockerts (2002) and Bansal (2005), sustainable development cannot be achieved, whether in developed or LDCs, where any of these three elements is not included in the sustainable development programme. The question is, what can drive corporate improvement in environmental sustainability practices in LDCs?

Of course, there is no better time than now, which we need to give serious attention to environmental issues in LDCs, if we really consider the threatening impact of climate change and global warming. To address this gap in literature and answer the question, *this thesis makes initial move by developing a framework that researchers and practitioners could use in analysing CSR contribution to environmental sustainability in LDCs with accountability positioned as intermediate factor between external stakeholder pressure (driving factors) and expected outcomes.*

In the context of normative and instrumental stakeholder theory, firms often like to use impression and distraction management strategies in their responsiveness to stakeholder pressure (Hooghiemstra, 2000; Johnston & Pongatichat, 2008). In such cases, they manage the situation just by informing stakeholders of the intention to improve environmental performance, trying to change the perceptions of stakeholders about the event (Jenkins, 2004), and manipulating their attention away from the fundamental issues (Huse & Eide, 1996). It is really challenging to manage stakeholders' pressure for improvement in environmental performance in LDCs because of poverty and corruption, which could lead to undue compromise by stakeholders themselves. However, stakeholder dissatisfaction and strained relationship of firm with its stakeholders are common in LDCs in places such as Niger Delta region of Nigeria (Obi, 2000; Ikelegbe, 2005; Fagbohun, 2007; Edoho, 2008, and Babatunde, 2010). Stakeholder participation strategy eventually emerged to improve corporate-community relationship and social/environmental responsiveness (Greenwood, 2007, Idemudia, 2009a). Such participation 'is far more than donations and charitable activities but includes granting stakeholders access to company's infrastructure, human resources and business activity' (Yekini, In Press, p3).

As Cumming (2001) indicates, 'the world has moved from 'trust me' culture where stakeholders held implicit and explicit faith that corporations would act in their best interests, to a 'tell me' and a 'show me' culture in which stakeholders wanted to be assured that organisations will do what is morally right' (p51). Cumming's study suggests that the world is moving towards 'involve me' culture, which stakeholders are working in close partnership with organisations. Indeed, stakeholders' involvement in environmental management decision making is increasingly encouraged at all levels (Stringer *et al.*, 2007; Idemudia, 2009a). However, the effectiveness of stakeholder engagement in enhancing CSR related activities is questioned in literature (Owen *et al.*, 2001). The terms, stakeholder engagement, stakeholder involvement and stakeholder participation are used interchangeable in this thesis.

The engagement strategy has been considered a failure because either firms do not carry the stakeholders along after initial consultation (Idemudia, 2009a) or they are found to return to what they intended to do before dialoguing issues with stakeholders (Reed, 2008). The problem is about the effectiveness of the participation strategy in enhancing CSR contribution to environmental sustainability without a robust system of environmental accountability. Of course, one crucial element of an environmental accountability itself is stakeholder engagement in environmental decision-making (Cumming, 2001; Paddock, 2004). In other word, stakeholder engagement is an integral component of accountability to the environmental stakeholders. Therefore, the environmental accountability concept is discussed in this thesis with this understanding.

Splendid, as the idea of accountability could be, however, studies that examine its influence on CSR contribution to improvement in environmental sustainability practice is scarce in literature, particularly in the context of LDCs. Chinander (2001) that touched on this issue limited her investigation to how employees and lower level manager accountability to top management could boost environmental performance. The present study looks at the role of accountability in a bigger picture of corporate relationship with outside world (society and constituents of stakeholder). The crucial question is, to what extent would accountability drive environmental sustainability in developing countries? *This thesis contributes to CSR and environmental sustainability literature by providing evidence of the influence of accountability on CSR contribution to environmental sustainability from the perspectives of the stakeholders.* That is, it draws sample from stakeholders in LDCs to test the role of accountability in enhancing physical environment sustainability using four-step environmental sustainability (FSES) model (see Figure 1 & 2 in Chapter 5).

The understanding of the role of accountability boosting environmental sustainability in LDCs and perspectives of the stakeholders is important for reason that the absence of strong formal regulatory system has made informal stakeholder pressure the main external driver of CSR programmes (Woods, 1995; Boele *et al*. 2001a, 2001b; Idemudia, 2014b). Therefore, it is a robust accountability system that will sustain the effort of the stakeholder and make engagement strategy worthwhile. It would also illustrate an instance, which stakeholder participation in environmental decision making could lead to improved quality of social/environmental responsiveness.

5.4 Hypotheses for Testing of the CES Framework

Based on extensively examined literature, the CES framework was developed to aid analysis of interrelated factors that could lead to CSR contribution to environmental sustainability. These are factors which organisations may consider when attempting to use CSR initiatives to contribute to environmental sustainability, particularly, in developing countries. Hence, these factors are discussed in the remaining sections of this chapter to highlight their relationships; and the hypotheses are formulated in alternative form.

5.4.1 The Link of Environmental Condition to Environmental Risk Awareness and Community (Re)actions

Sustainability of the natural environment is generally accepted as an indispensable component of sustainable development (Hart, 1995; Moon, 2007; Lozano, 2008; Garza, 2013; Busato & Maccari, 2016). The understanding that the host community of any firm has a right to a liveable environment is not debatable (Guerrette, 1986; Eaton, 1997; Thorme, 1990). Firms owe them the duty of allowing them to have such right (Velasquez, 2002). The idea of CSR was originally framed to focus on business social issues of concern to the stakeholder (Hillenbrand *et al.*, 2013). When CSR is based on *casual influence* of industrial activities on the stakeholders, Idemudia (2009b) argues that it becomes an obligation, which non-compliance could trigger series of actions from the stakeholders (Jeremiah, In Press). Simon *et al.* (1993) views such CSR initiatives as means of amending non-performed ethical social and environmental obligations. Bowen (2000) demonstrates that environmental visibility triggers actions that could lead to corporate improvement in environmental behaviour. It is postulated that the *degree of awareness of the environmental risk depends on the environmental condition*. A less educated subsistence farmer will be aware of a problem if his farm land is flooded with crude oil from broken pipe. He would personally respond in one way or the other (e.g., by reporting the incidence to the village head). The impression is that each stakeholder group may respond in a unique way to the poor environmental condition (Jeremiah, In Press).

The nature of actions may also change as the environmental risks associated with a firm become apparent. For instance, in Niger Delta, communities have responded with actions such as mass protests, facilities vandalization, access blockade, kidnapping of oil companies' workers, and so on, as the risks become apparent (Obi, 2000; Ikelegbe, 2005; Fagbohun, 2007; Edoho, 2008, and Babatunde, 2010). The protest is one of the indicators that *social license to operate* is under threat of breach or withdrawal (Owen & Kemp, 2013). In Gadenne *et al.* (2009) awareness of environmental risks of business is linked to strategic actions taken by the environmental stakeholders towards pushing firms to control environmental pollution. Wakefield *et al.* (2001) also relate local communities' reaction to environmental situation with corporate change of environmental behaviour. Therefore, stakeholders' reaction depends on the observable environmental condition and degree of environmental risk awareness. In other words, corporate non-compliance with environmental requirements is expected to boost environmental risks awareness and lead to community negative reaction. Thus, the following hypotheses are formulated in an alternative form (see Figure 5.2):

Hypothesis 1

> There is a positive relationship between corporate non-compliance with environmental requirements and stakeholders' level of awareness of the environmental risks.

Hypothesis 2

> The awareness of the risks of the environmental pollution relates positively with local communities' reaction towards environmental polluting firms.

Hypothesis 3

There is a positive relationship between corporate non-compliance with environmental requirements and local communities' negative reactions towards environmental polluting firms.

5.4.2 The Link of Community Reaction and Environmental Risks Awareness with Quest for Environmental Accountability

Some scholars argue that in this reflexive modernity age as the stakeholders are aware of the environmental risk associated with firms' externalities (Unerman & O'Dwyer, 2007) they will build a vocal and well organised civil society organisation that would enforce MNCs to change their environmental behaviour (Garvey & Newell, 2005). The reflexivity theory assumes that where external stakeholders rely upon the information reported in a corporation's social and environmental accounting and reporting to ascertain the social and environmental actions of the corporation, if an event occurs that demonstrates this information to be unreliable or misleading, then such stakeholders may not only disbelieve the information reported, but they may reflexively develop mistrust in social and environmental report of firms (Giddens, 1994; Unerman & O'Dwyer, 2007). Such mistrust in Nigeria has warranted community protests, which sometimes degenerated into violent and conflicts with oil firms and government in Niger Delta region (Boele *et al,* 2001a). The fact is that the *distraction* and *impression* management strategies (Jenkins, 2004) adopted by most firms in developing countries can only postpone the corporate-conflict but cannot resolve it.

Indeed, awareness of environmental risks of a business is important to all environmental stakeholders: firms, society, and government. Herein, 'risk is socially constructed; it is a subjective, cultural construct which is rooted in daily experience and assessed by reference to experience' (Wakefield, 2001, p164). To the firms, awareness could lead to reengineering of production process with aim of preventing or controlling pollution (Gadenne *et al.*, 2009). To government it provides input for formulation of public policy on pollution and environmental regulations (Department of Environment, 1995). While on the part of the society it could lead to organised civic actions against firms' poor environmental behaviour (Woods, 1995; Donaldson & Dunfee, 1999; Wakefield *et al.,* 2001; Boele *et al,* 2001a). Wakefield *et al*., (2001) employed qualitative method to investigate the relationship of perceived environmental risk associated with air quality with community (re)action. The need for regulatory pressure be formal or informal is becoming imperative in developing countries.

In Gray & Bebbington (1993) view, 'the essence of environmental accountability and transparency is that environmental matters are too complex and crucial to be left entirely in the already overburdened hands of corporations' (p316). They further argue that because of the lack of necessary information about ecological impacts of corporate activities and the fact that corporations are overloaded with managerial burdens, it becomes "unreasonable" to expect corporations to single-handedly take even more decisions that affect our futures. Moreover, financial markets have demonstrated 'an "awesome indifference" to the social and environmental activities of the companies they own, ... except in so far as the social and environmental activities can be seen to have direct and fairly immediate financial implications (Gray & Bebbington, 1993, p316). As Gray & Bebbington, 1993 conclude, a 'faith in voluntary development of the mechanisms for environmental and social accountability is therefore misplaced' (p317). Hence, the clear message is that corporations are not to be trusted to enhance social and environmental welfare all by themselves (Burritt & Welch, 1997). The discharge of environmental accountability will therefore require regulation (formal or informal) if it is to succeed (Gray & Bebbington, 1993).

Besides, stakeholders' reaction towards poor environmental condition attributed to business activities signals their dissatisfaction with firms' environmental performance. The fairness theory presumes assignment of blame as central in social justice issues (Folger & Cropanzano, 2001). The fairness theory holds that where the unfavourable condition exists (i.e. a negative state of events relative to a given frame of reference), and such negative event is due to someone's volitional or discretionary conducts that violate ethical principle of interpersonal conduct then the need for accountability arises (Folger & Cropanzano, 2001). The environmental accountability is more about what a firm does not do in its business environment than what it does (Gray *et al,* 2014). Therefore, when an instance of unfair treatment is identified by some people, they are trying to hold someone accountable for an action (or inaction) that threatens another person's material or psychological well-being (Folger & Cropanzano, 2001). In other words, quest for accountability procedure depends on existence of an *unfavourable environmental condition* that is *attributable* to firm(s') discretionary conducts that *violate* applicable moral principle. Based on this line of argument the following hypotheses are formulated:

Hypothesis 4

Local communities' reaction towards environmental polluting firms will positively relate with the quest for corporate environmental accountability procedures.

Hypothesis 5

The awareness of the risks of the environmental pollution relates positively with corporate environmental accountability procedures.

5.4.3 The Relationship between Community Reactions, Intentional Response and Corporate Commitment to Environmental Sustainability

Ethically, corporate citizens develop good behavioural intention towards environmental sustainability voluntarily knowing that doing so can forestall stringent environmental regulations (Buchhoiz & Rosenthal, 1999), protest from host communities (Boele *et al.,* 2001) and lose of reputation (Brammer & Pavelin, 2004). Business ethics does not only focus on people's intentions, their character and the local consequences of their actions, but it also deal with the intentions of organisations, the character of institutions and the global consequences of their actions (Jones, Parker & ten Bos, 2005). Apparently, intentional behaviour, whether of individual or organisation, is driven by the foreseeable consequences of behaving or not behaving in a way. The consequences, the consequences of failing to comply with the environmental norms of the host community could influence intentional improvement in environmental behaviour.

Theoretically, intention is a crucial variable that could, to a substantial extent, predict an actual voluntary behaviour (Fishbein & Ajzen, 2010). The theory of reasoned action (TRA) propounded by Icek Ajzen predicts that corporations can take voluntary actions based on beliefs held by corporate managers about the consequences of not taking such actions (Ajzen, 1991; Kalafatis *et al*, 1999). The consequences could be the possible actions that could be taken against the corporations by environmental regulatory agencies, stakeholders, and the local and international communities. The underlying assumption of this theory is that human social behaviour follows reasonably and often spontaneously from the information or beliefs people possess about the behaviour under consideration (Fishbein & Ajzen, 2010). Such beliefs, as they argue, guide the intention to perform or not to perform certain behaviour. In this context, performance of the environmental behaviour is a function of intention, which is driven by corporate beliefs about potential consequences of non-performance of the behaviour.

Recently, Thoradeniya *et al.* (2015) use survey strategy to investigate the relationship between stakeholders' pressure and corporate managers' *intention to voluntarily report* their environmental sustainability activities. The corporate managers' beliefs about the pressure from the community groups and sense of involvement of stakeholders in environmental management activities through accountability procedures are expected to drive intention to improve environmental behaviour. Therefore, intension increases with the increase in information about the potentials threats.

Hypothesis 6

> A strong environmental accountability system relates positively with corporate managers' intention to voluntarily improve their environmental behaviour.

Hypothesis 7

> Local communities' reaction towards environmental pollution will positively influence corporate managers' intention to voluntarily improve their environmental behaviour.

Hypothesis 8

> A positive relationship will be observed between corporate managers' intention to voluntarily improve their environmental behaviour and the actual commitment to environmental sustainability.

5.4.4 Accountability and Stakeholders Expected Social/Environmental Performance

Viewing the environmental problems associated with oil MNCs in Niger Delta in the lens of fairness theory, indicates existence of three basic prerequisite assumptions that precede the need for a system of accountability. The voice of the people of Niger Delta has echoed their *unfavourable condition* of environment to the international community (Ikelegbe, 2005; Fagbohun, 2007; Babatunde, 2010; Edoho, 2008); and pumping of oil in over-aged pipelines certified to have reached the end of its life many years ago, (BBC, 2014) demonstrates *discretionary conducts* that *violate* sound environmental moral behaviour of oil firms' managers.

Normative perspective of stakeholder theory predicts that managers of firms will manage the interest of all stakeholder groups based on their *intrinsic value* to the firm (Donaldson & Preston, 1995). As they further explain, 'each stakeholder group merits consideration for its own sake and not merely because of its ability to further the interests of some other group, such as shareholders' (p67). Therefore, need for environmental accountability to the affected stakeholders emerges. This implies participation of stakeholders in environmental decision-making.

Of course, stakeholder participation strategy in environmental management decision-making is increasingly encouraged from local to international scales (Stringer *et al.*, 2007; Idemudia, 2009a). In Agenda 21 it is stated that 'one of the fundamental prerequisites for the achievement of sustainable development is broad public participation in decision-making' (Agenda 21, Chapter 23, Section 23.2, Online). The question is about the effectiveness of the participation strategy in enhancing environmental sustainability.

In Nigeria oil industry, stakeholder involvement strategy has been found to lead to minimal CSR contribution to community development (Idemudia, 2009a). Idemudia argues that the involvement model fails because it is majorly corporate driven. This agrees with Reed (2008) assertion that 'although many benefits have been claimed for participation, disillusionment has grown amongst practitioners and stakeholders who have felt let down when these claims are not realised' (p2417). The indication is that with no system that involves stakeholders in implementation monitoring and evaluation, participation means nothing because corporate managers would go back to what they wanted to do. The observation is that firms routinely break the promises they make in their environmental policy statements (Ketola, 1997). To address this problem, hypothesised an accountability system as a compliance/performance based intermediating factor that could be embedded in stakeholder involvement strategy when attempting to improve environmental performance to the satisfaction of the stakeholders.

Indeed, the theory of accountability is an intermediate level theory that explains an organisation's relationship with a constituent of stakeholder groups or social structure. As mentioned earlier, environmental accountability has two faces, namely: "accountability for environmental obligations" and "mechanics of better environmental accountability" (Gray *et al*, 1996; Schedler, 1999; Wawryk, 2003). While the first aspect is concerned past performance the second focuses on the future performance. In other words, there are *performance-based accountability* that focuses on the outcomes and results of the past activities and *compliance-based accountability* that is concerned with *laying down rules*, *processes* and *procedures* which could guide future performance (Carman, 2010).

Traditionally, ‘accountability has involved defining rules and procedures and then employing various means to ensure compliance with these expectations’ (Jos & Tompkins, 2004, p257). It is exercised through environmental audits, investigations, and reviews of past performance with aim of establishing whether rules have been broken; where this happened, how to impose a punishment that will be appropriate to the violation; and indicate whether the punishment will deter future transgressions (Jos & Tompkins, 2004). Following such rules and procedures are found to improve future performance (Carman, 2010). It is therefore postulated that improvement in corporate environmental performance depends on the system of accountability in operation.

Such improvement would be observed in firms’ *commitment* to the physical environmental sustainability, which would be reflected in three interconnected environmental management strategies – pollution prevention, product stewardship, and sustainable development (Hart, 1995). These strategies of managing legitimacy threats linked to non-compliance with environmental requirements differ from *distraction* and *impression* management strategies, which as pointed out in Lindblom (1994, quoted by Jenkins, 2004, p 30) are concerned with

- informing stakeholders about intended improvements in performance,
- seeking to change stakeholders’ perceptions of the event,
- distracting attention away from the issue, and
- changing external expectations about its performance.

Specifically, commitment demonstrates corporate practical concern with environmental wellbeing of the wider stakeholder by ‘integrating the “voice of environment,” that is, external stakeholder perspectives, into product design and development processes’ (Hart, 1995, p993). That is, what gives stakeholders environmental concern would be considered proactively when developing environmental management strategies. Hence, firms will most likely be transparent in their environmental impact assessment (EIA) reports and when disclosing social and environmental impacts of their business (Wawryk, 2003). Besides, accountable organisations would likely gear their CSR initiatives towards mitigating the social and environmental effects of business activities on the communities (Donaldson & Preston, 1995; Deegan, 2007). This is a form of compensatory justice which ‘is concerned with determining how individuals should be compensated for the harm done by others’ (Baron, 2006, p750). Therefore, the following testable hypotheses are formulated in alternative forms.

Hypothesis 9

The environmental accountability procedures will positively influence corporate commitment to environmental sustainability.

Hypothesis 10

The environmental accountability procedures will positively influence corporate readiness to align CSR initiatives with potential environmental pollution impacts.

Hypothesis 11

The environmental accountability procedures will positively influence corporate transparency on environmental impact information disclosure.

5.5 Chapter Summary

The ES constructs were closely examined and their relevant in the study justified in this chapter. The chapter started with the discussion of a *Four-Step Environmental Sustainability Model* developed to ease understanding of the study of environmental phenomenon. The model can be operationalised, with or without modification, in developed, emerging, and developing economies. Apparently, no observable commitment to ES has taken place in Niger Delta (see section 2.6.2 of Chapter 2) though serious attempts are made towards socio-economic sustainability in the region (Ite, 2004; Idemudia, 2014a). The interrelationship of the themes reviewed indicates that they address a common issue which is ES. Based on this point of view, the hypothetical structure was developed (see Figure 5.2) to illustrate *a priori* structural pattern of the constructs. Finally, the testable hypotheses were formulated. These hypotheses are rooted in existed relevant theories and reviewed literature as suggested in Blaikie (2003). They form the basis of the study approach, method of data collection and analysis, which are the subjects of the next chapter.

CHAPTER 6

RESEARCH METHODOLOGY

The determining cause of a social fact should be sought among the social facts preceding it and not among the states of the individual consciousness (Emile Durkheim, 1858 – 1917).

6.1 Introduction

In this chapter, the research methodology adopted in the study is discussed. The systematic steps followed in search for knowledge about the factors that could influence ES policy and practice in developing countries and relationships of such factors are outlined in this chapter. The chapter begins by examining the rigour and relevance of environmental and management research in Section 2. In Section 3, the nexus of research objectives and the study method is discussed. The research design follows a framework portrayed by longitudinally divided 'onion' as presented and discussed in Section 6.4. The ontological and epistemological assumptions involved in empirical research are also discussed under this Section. The research approach and justification for the approach adopted in the study is discussed in Section 6.4.2. The data collection technique is in Section 6.5; while data analytical procedures follows in Section 6.6. Ethical issues are discussed in Section 6.7; and the chapter is concluded with a summary in the last section.

6.2 Rigour and Relevance of environmental and management research

In recent years, growing public concern about issues connected to environment, health, communications, privacy and procreation has stimulated growth in knowledge productions that targets solving specific problems. From inception of the studies of these issues, the question that is born in mind by the researchers is how would the knowledge produced be useful in solving the problem at stake. The impression is that knowledge produced through rigorous studies should be in the context of application to issues that informed the study (Gibbons *et al*, 1994). This is a common scenario in management research and a big challenge that confronts researchers, especially, in business schools (Transfield and Starkey, 1998). Indeed, business school researchers are not only faced with the challenge of applicability of knowledge originated through the study, but they also need to carry out their studies within the cognitive dimension of certain disciplines (Becher & Trowler 2001).

Biglan (1973) analyses certain characteristics of subject matter in different academic areas of study and produced two substantive cognitive dimensions, hard versus soft and pure versus applied, for both the life science and non-life science. Biglan (1973) provides a systematic framework for exploring the role which cognitive processes play in various academic fields. According to Biglan (1973):

> Three most important dimensions for characterising the "cognitive style" of an area concern its use of a paradigm, its attention to practical application, and its concern with life systems (p202).

Hard versus soft, the dimension that shows '… the degree to which a paradigm exists' (p.202), distinguishes natural sciences, engineering, and agriculture from social sciences, education, and humanities (p.201). Becher & Trowler (2001) argue that this first set of the contrasted characteristics, hard versus soft, offers insight into cognitive dimension of disciplines. This dimension provides a kind of empirical support for analysis of the paradigm (Biglan, 1973).

The paradigmatic agreement in disciplines serves as an important organising function in such discipline: 'it provides a consistent account of most of the phenomena of interest in the study area and, at the same time, serves to define those problems which require further research' (Biglan, 1973, p202). Besides, it aids in the research questions definition and specification of appropriate epistemological orientation of the study (Transfield and Starkey, 1998). Thus, 'fields that have single paradigm will be characterised by greater consensus about content and method than will do fields lacking paradigm' (Biglan, 1973, p202). Therefore, what determines the degree of *hardness* of a discipline is the extent to which 'a body of theory is subscribed to by all member of the field' (Biglan, 1973).

In Biglan's analysis, not only the traditional 'soft' disciplines such as education and humanities that lacked a unitary paradigm, social sciences and business areas were seen as field that strive for paradigm but that have not yet achieved it (Biglan, 1973; Transfield and Starkey, 1998). Indeed, the most common feature of management research is that it does not operate under a single agreed ontological and epistemological paradigm; it is rather characterised by heterogeneous and fragmented fields and it often draws knowledge and research methods from other disciplines such as social sciences (Gibbon *et al*, 1994). Consequently, paradigmatic consensus is not easily achieved in 'soft' disciplines such as management and social sciences as it is in physical and natural sciences considered to be 'hard' disciplines. Which is why social and environmental phenomena are often explained by multiple theories (Gray *et al.,* 2014).

Another aspect of the "cognitive dimension of disciplines" worthy of discussion is what Biglan (1973) refers to as *pure versus applied* – '… the concern of the area of application to practical problems' (p.202). This dimension of management research is concerned not only with 'knowing what', but it is also concerned with questions relating to 'knowing how' (Transfield and Starkey, 1998). The distinguishing feature of the pure versus applied is on the method and style used in mapping the discipline. In pure areas, mapping is cumulative and mostly dictated by the linear and logical development of an academic agenda; while in applied areas this condition does not hold (Transfield and Starkey, 1998). The applied areas are much more open to a variety of environmental influences, such as changes in user's agendas, revised government policy or the influence of natural disasters (Transfield and Starkey, 1998).

It is evidence that management research falls into applied areas. In Transfield and Starkey (1998) opinion, it is concerned with building 'a body of knowledge which documents, codifies, and articulates a problem and solution-set concerned with understanding and improving the practice of management' (p346). The focus of management research, as they further argue, is concerned with understanding the organisation and the arrangement of resources to deliver optimal performance and social cohesion. The approach to the study is using general theories to a specific case; the approach which as Berry (1995) points out contrasts with 'Socratic' approach which rejects generalisation of theories and rather prefers specific and relative theories to specific and relative contingencies. The point is that theories help in explaining peculiar situations of interest to the researchers. However, management theories are not subject to similar stages of proof as those in exact sciences (Berry, 1995).

Interestingly, in bridging the gap between management theory and practice, the traditional method of knowledge production, 'Mode 1' is contrasted with the alternative method referred to as 'Mode 2' (Gibbon *et al*, 1994).

> The term Mode 1 refers to a form of knowledge production – a complex of ideas, methods, values, norms – that has grown up to control the diffusion of Newtonian model to more and more fields of enquiry and ensure its compliance with what is considered sound scientific practice (Gibbon *et al*, 1994, p.2).

This approach to knowledge production debate summarises in a single phrase, the cognitive and social norms, which must be followed in the production, legitimation and diffusion of knowledge that is scientific in nature.

Mode 2, on the contrary, offers a very different model of knowledge production. The search for knowledge is carried out in a context of application (Gibbon *et al*, 1994). When compared with Mode 1:

> Mode 2 is more socially accountable and reflexive. It includes a wider, more temporary and heterogeneous set of practitioners, collaborating on a problem defined in a specific and localised context (Gibbon et al, 1994, p.2).

In other words, Mode 2 emphasises that a context for research should be governed by the world of practice, and it highlights the importance of collaboration both with and between practitioners (Starkey and Madan, 2001). Transfield & Starkey (1998) analyses five key features of Mode 2' as:

i. Research problems framed in the context of application;
ii. Trans-disciplinary driven;
iii. Diffusion occurring in the process of production;
iv. Heterogeneous teams of researchers with mixed skill and experience;
v. A more socially and politically accountable knowledge production process and output (Transfield & Starkey, 1998, p.348).

The feature of Mode 2 knowledge production is transparently seen in most management/organisational studies. It is always a problem-solving mission with staff drawn from various backgrounds of disciplines (Suanders et al, 2009).

Apparently, there is a relevance gap between pure versus applied research when their individual focus is closely examined. Pure research captured in 'Mode 1' knowledge production lays more emphasis on rigorousness of theory and methodology used in producing knowledge; while applied explained as 'Mode 2' knowledge production is concerned with the practical relevance of the knowledge produced. Hodgkinson *et al* (2001) argues that over the years the debate about the nature of management research has focused on how it can meet the *double hurdle* of being both theoretically and methodologically rigorous, while at the same time embracing the world of practice and being of practical relevance.

From the foregoing debate, it could be argued that business school research should necessarily adopt pragmatic approach with high level theoretical and methodological rigour and high level of practical relevance. It should not only provide findings that advance knowledge and understanding, it should also address business issues and practical managerial problems (Suanders *et al*, 2009). The study of the perspectives of CSR that can best contribute to environmental sustainability has some practical implications to corporations in their CSR practice. Environmental issues associated with production of crude oil poses serious managerial challenges in developing countries such as Nigeria. The impact of environmental pollution on the immediate host communities (stakeholders) is studied with the aim of providing policy implications which could be considered by managers of corporation and environmental regulatory agencies.

Even though the present study is academic based and not conducted in the context of application, yet its practical relevance is conspicuous. The outcry of the local and international communities over the illegal environmental pollution in Niger Delta region of Nigeria (Emoyan *et al,* 2008; Environmental Rights Action/Friends of the Earth Nigeria and Oilwatch Africa, 2012) and the associated impact on health, social, and economic life of the people of the region (Eweje, 2006) establishes a practical relevance status of the study. The study explores the environmental issues of concern to oil companies, local and international communities and the perspective of CSR that could enhance environmental sustainability. The impression is that the knowledge produced could be useful to the organisations for policy formulation in the future (Huff & Huff, 2001).

As Huff & Huff argues, business school should retain Mode 1 approach to knowledge production. This study satisfies 'Mode 1' requirements because it is a *pure* academic research with high theoretical and methodological rigour. The key point in 'Mode 1' is that the research questions were formed based on the gap identified in the CSR and environmental sustainability literature. The study uses point of views of respective groups of stakeholders to provide better explanations to theoretically significant phenomena of interest and how such phenomena could be addressed practically. By explaining *"what leads to what and what could be done to enhance or minimise what"* the study contributes, theoretically and practically, to the body of knowledge. This approach satisfies the practical relevance perspective of Mode 2 knowledge production. Therefore, the research approach employed is theory-led (Mode 1) but practice-sensitive (Mode 2). Hence, knowledge produced can be used by organisations for decision making.

6.3 Nexus of Research Objectives and the Study Method

Research questions are required in defining the nature and scope of any research. It helps in determining what to be studied and how it will be studied (Blaikie, 2010). In other word, research questions are needed before designing how the research will be conducted. Consequently, the linkages of the research objectives to research questions and hypotheses through to the method of study are shown in Table 6.1. This, invariably, will aid the understanding of the research methodology framework, and data collection techniques and analytical procedures.

Table 6.1: Mapping of Research Objectives into Research Questions and Method

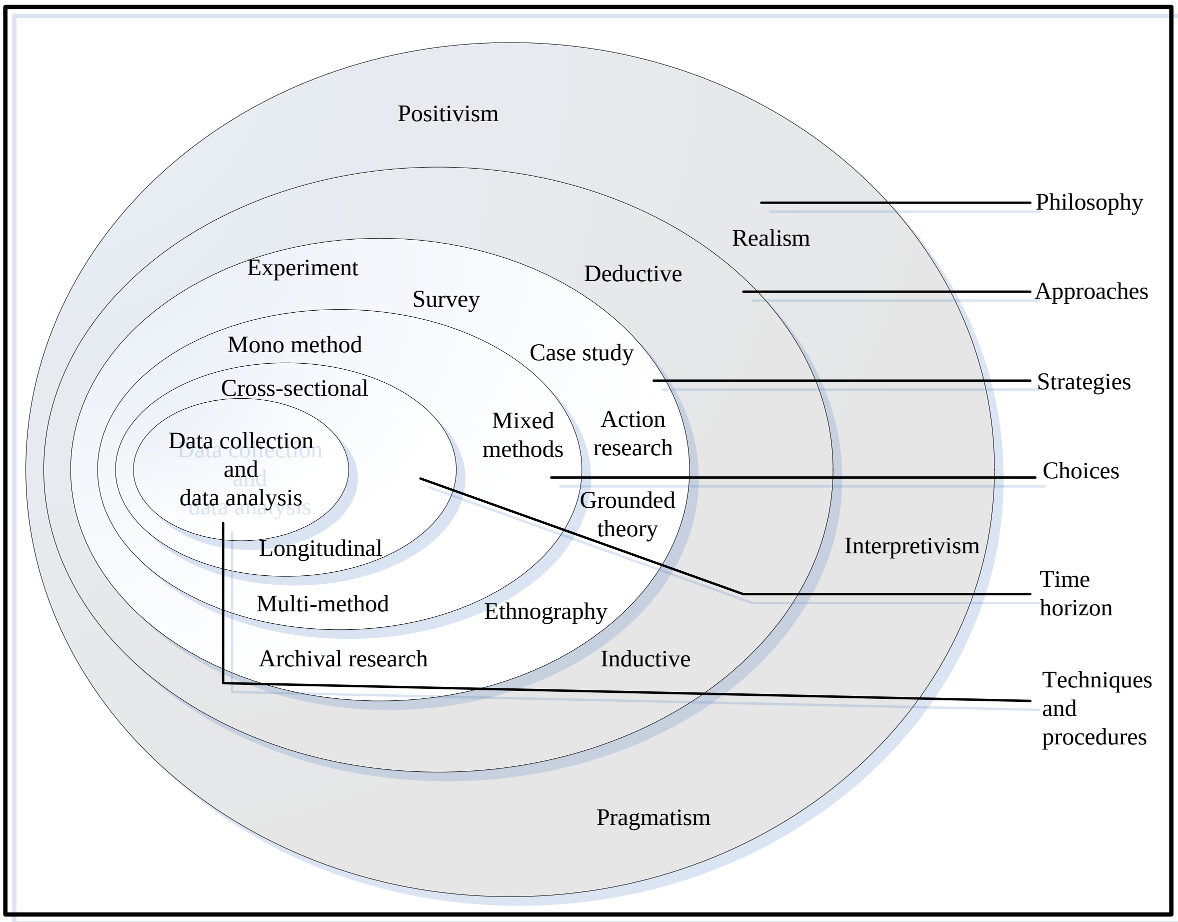
Research Objectives	Research Questions	Hypotheses	Research Method	Application
1. To identify and assess what expert group of external stakeholders believe to be the main corporate environmental sustainability factors in oil and gas industry in Nigeria.	1 What are the main corporate environmental sustainability factors in oil and gas in Nigeria?		Exploratory factor analysis (EFA)	Used in extracting the major ES factors in Nigeria oil and gas industry.
2. To find out stakeholders' opinions on whether corporate non-compliance with environmental requirements relates with pollution risks awareness and communities' negative reaction towards polluting oil companies in Nigeria.	2. Why should oil multinational corporations give serious attention to their environmental obligations?	*H1:* There is a positive relationship between corporate non-compliance with environmental requirements and stakeholders' level of awareness of the environmental risks. *H2:* The awareness of the perceived risks of the environmental pollution relates positively with local communities' reaction towards environmental polluting firms. *H3:* There is a positive relationship of corporate non-compliance with environmental requirements with local communities' negative reactions towards environmental polluting firms.	Confirmatory factor loading (CFA) and structural equation modelling (SEM)	CFA is used in evaluating the observed variables while SEM is used in modelling simultaneously the multivariate relationships among the observed and latent variables. It enables modelling of statistical and graphical relationships between dependent and independent variables.

3. To examine whether pollution risks awareness and negative reaction of communities can influence corporate tendency to adopt accountability procedures.	3. To what extent would pollution risk awareness and communities' negative reactions influence oil MNCs likeliness to adopt environmental accountability procedures?	*H4:* Local communities' reaction towards environmental polluting firms will positively relate with the quest for corporate environmental accountability procedures. *H5:* The awareness of the risks of the environmental pollution relates positively with corporate environmental accountability procedures.	Confirmatory factor loading (CFA) and structural equation modelling (SEM)	CFA is used in evaluating the observed variables while SEM is used in modelling simultaneously the multivariate relationships among the observed and latent variables. It enables modelling of statistical and graphical relationships between dependent and independent variables.
4. To investigate the factors behind corporate voluntary improvement in environmental behaviour.	4. To what extent would the sense of accountability and community negative reaction influence corporate managers' intention to improve environmental behaviour?	*H6:* A strong environmental accountability system relates positively with corporate managers' intention to voluntarily improve their environmental behaviour. *H7*: Local communities' reaction towards environmental pollution will positively influence corporate managers' intention to voluntarily improve their environmental behaviour. *H8:* A positive relationship will be observed between corporate managers' intention to voluntarily improve their environmental behaviour and the actual commitment to environmental sustainability.	CFA and SEM	CFA used as above.
5. To examine whether APCSR can enhance corporate environmental sustainability practice in Nigeria.	5. Why should oil MNCs adopt APCSR in their effort to improve environmental sustainability in Nigeria?	*H9:* The environmental accountability procedures will positively influence corporate commitment to environmental sustainability. *H10:* The environmental accountability procedures will positively influence corporate readiness to align CSR initiatives with potential environmental pollution impacts. *H11:* The environmental accountability procedures will positively influence corporate transparency on environmental impact information disclosure.	CFA and SEM	CFA used as above.

6.4 Research Methodology Framework

The framework for research methodology summarised in Figure 6.1, which presents a slightly moderated Suanders *et al*, (2009) research 'onion' sets out key points followed in producing theory-led but practice-sensitive research outcome. This is an abstract form of the research design that highlights various aspects or parts of the study. Research design is defined by Blaike (2010, p37) as 'the plan, structure, and strategy of investigation conceived so as to obtain answers to research questions and to control variables'. Such plan, as portrays by research onion, captures the entire scheme of the research from the beginning to data collection and analysis.

Figure 6.1: The Research Onion



Source: Saunders et al, 2009

The research framework portrayed by the longitudinally divided onion in Figure 6.1 presents research philosophy at the outer layer as fundamental ideas that guide knowledge production. It contains important assumptions about the way the researcher views the world. Such assumptions underpin the research strategy and the methods chosen as part of the strategy of inquiry (Suander et al, 2009). The second layer is concerned with the approach used in validating the theory. The two main approaches are: inductive reasoning, which focuses on theory building; and the deductive reasoning, which is concerned about testing a theory (de Vaus, 2001). Although the study focuses on testing some theories, the researcher adopts Francis Bacon bees' approach discussed in later in this chapter (see section 6.4.2.1).

The third layer captures the strategies adopted in carrying out the study. Given the nature of the study, survey strategy is adopted. As Yates (2004) points out, three important aspects to the overall design of survey research are measurement, sampling, and questionnaire design and administration. The fourth layer presents the time horizon of data collection. The study adopts a cross-sectional survey approach to establish the nature of association of the key variables at the time of this study. Indeed, the aim is to demonstrate some level of correlations and structural relationships among the variables (Gilbert, 2001).

The fifth layer considers the choice of method of study inquiry. In this study, quantitative method is adopted because of the assumption researcher holds about nature of reality of social entities in Niger Delta business environment. Based on *objectivism* perspective of ontology, the researcher is of opinion that social realities such as *environmental pollution* exists, externally, to social actors such as *local communities and other stakeholders* who are concerned with their existence (Suanders *et al*, 2008). Against this backdrop the quantitative technique and procedure of data collection and analysis, which is the last layer, was adopted to investigate the reality. Each aspect of these layers is discussed in detail in the remaining sections of this chapter.

6.4.1 Research Philosophical Assumptions

From the earlier arguments, every research is expected to make some contribution to advancement of knowledge, no matter how small such contribution could be. However, it is necessary to note that the nature of the knowledge produced, to a reasonable extent, depends on the beliefs and perceptions that determine the researcher's world view, which invariably underpin the kind of research strategies and method adopted (Saunders *et al.,* 2009). Of course, all social scientists approach the subject of their study through explicit or implicit assumptions about the nature of the social world and possible ways in which it may be investigated (Burrell & Morgan, 1979). In other words, the way we view the social world around us, our knowledge of the social world, and the techniques and procedures adopted in deriving such knowledge are important in business and management research. These assumptions are concerned with *ontological, epistemological, axiological,* and *methodological* issues in knowledge production. Indeed, the ontology, epistemology, and axiology, are philosophical components that influence the researcher's beliefs and perceptions and are also considered instrumental to what the researcher considers important to be studied at a given time. Therefore, they are further discussed as subsections of this section; while the methodological issues are discussed in detail in the subsequent sections in this chapter.

6.4.1.1 Ontological Issues in Research Philosophy

Ontology is concerned with the nature of reality and existence (Saunders *et al*, 2009; Easterby-Smith *et al.*, 2008). The questions of social ontology are concerned with social entities; and the central argument is whether social entities should be considered as objective entities that have a reality external to social actors or social constructions built up from the perceptions and actions of social actors (Bryman, 2012).

Therefore, two common ontological views of the social world are objectivism and subjectivism approaches. *Objectivists* posit that social phenomena and their meanings have an existence that is independent of social actors (Bryman, 2012). The argument is that social world or its reality exists by itself and cannot be influenced or affected by what occurs to social actors within it (Saunders *et al*, 2009).

On the other hand, *subjectivists* posit that social phenomena are created from the perceptions and consequent actions of social actors (Saunders *et al*, 2009). This creation of the social phenomena by social actors and their subsequent interactions with each other, which could be referred to as constructionism, is not static but dynamic, resulting in a continuous process of revision (Bryman, 2012). Such continuous construction of social reality is largely influenced by beliefs, words, and actions of different people at various times, which invariably results in differences in social phenomena (Denscombe, 2010). Thus, what could be termed social phenomena are not only produced through social interaction, but they are also in a constant state of revision (Bryman, 2012).

The ontological position considered in this research lean, to a substantial extent, on the position of the objectivists. The rationale behind considering objectivist position is that the polluted environment in oil rich region of Niger Delta is considered as an entity that exists separately from the environmental stakeholders, the social actors. The researcher believes that the impacts of such pollutions exist independently from the social actors; and that where there is an oil spill, the impacts on the immediate environment are expected to be the same anywhere. The different could be the procedure individual oil companies follow to avoid the spills and/or what they do if spills occur. Even the accountability tool, which is proposed to have influence on management of the spills are also assumed to exist as a separate entity.

Of course, the researcher believes that the environmental pollutions in Niger Delta are human induced; and that the perceptions of the impact of such pollutions on the environment and how the environment could be sustained are constructed by social actors. However, that is not the focus of the present study. The aim is to understand the nature of structural relationships of theses separate factors (Saunders *et al*, 2009). The researcher believes that adequate understanding of the nature of influence one factor has on the other will serve as input for management decisions which could lead to ES.

6.4.1.2 Epistemological issues in research philosophy

The next philosophical thought in social sciences is epistemology, which is concerned with what should be considered an acceptable knowledge in a field of study (Saunders *et al,* 2009; Easterby-Smith *et al,* 2008; Bryman, 2012). *It is a philosophy of knowledge that focuses on how we come to know what we claim to know*. The argument is whether knowledge concerning social world can or should be derived using the same principles and procedures used in studying natural sciences (Bryman, 2012). The different epistemological positions discussed in this section are positivism, post-positivism, and interpretivism. These are research paradigms, the worldviews or belief systems that guide researchers in their inquiries (Tashakkori & Teddlie, 1998).

Positivism paradigm is 'an epistemological position that advocates the application of the methods of natural sciences to the study of social reality' (Bryman 2012, p.28). The positivist prefers working with an observable social reality, which the end product of such research can be law-like generalisations similar to those produced by physical and natural scientists (Remenyi *et al,* 1998; Saunders *et al,* 2009). Consequently, positivists advocate for quantitative research paradigm and strongly reject qualitative. Those in this school of thought are also referred to as *quantitative purists* and they believe that social observations should be treated as entities in much the same way that physical scientists treat physical phenomena (Johnson & Onwuegbuzie, 2004). They emphasise that educational researcher should remove their biases and remain emotionally detached from the objects of study, and rather test or empirically justify their stated hypotheses (Tashakkori & Teddlie, 1998; Johnson & Onwuegbuzie, 2004).

Post-positivism research paradigm emerged as a reaction to the cumulative and increasingly definitive critique of the inadequacies of positivism's axioms in the face of the complexities of human experiences (Lather, 1986; Tashakkori & Teddlie, 1998). The post-positivists' belief is that observations are theory-laden and that the construction of sophisticated scientific apparatus and procedures for data presentation often involve the explicit or implicit acceptance of well-developed scientific theories, over and beyond the theory being tested (Tashakkori & Teddlie, 1998).

This paradigm which is also referred to *critical realism* (critical rationalism) paradigm adopts the position that in real terms the natural and social sciences differ in their contents but not in the logic behind their methods (Blaikie, 2007). *The critical realist believes in existence of a reality independent of what we think about it and that such reality can be measured scientifically*. The paradigm makes no distinction between observational and theoretical statements, rather as Blaikie further argues, all observations are theory-dependent, and they occur within a horizon of expectations. The main idea behind the paradigm is the logic of explanation, which is based on a critical method of trial and error, in which theories are tested against reality; using the approach commonly known as method of hypotheses (Blaikie, 2007). The paradigm adopted in this study.

Interpretivism paradigm is epistemological approach that advocates understanding of the differences between humans in their role as social actors (Saunders *et al*, 2009). It is an epistemological position that holds the view that a strategy is required that respects the differences between people and the objects of the natural sciences and therefore, it requires the social scientists to grasp the subjective meaning of social action (Bryman, 2012). The heritage of this strand of epistemology comes from two intellectual traditions – *phenomenology* and *symbolic interactionism* (Saunders *et al*, 2009). Phenomenology, as Saunders *et al* (2009) point out, refers to the way in which we as humans make sense of the world around us; while in symbolic interactionism we are in a continual process of interpreting the social world around us.

To the interpretivists, the study of social world requires a different logic of research procedure, the type that reflects the distinctiveness of humans as against the natural order (Bryman, 2012). The argument is that social science research should adopt *hermeneutics* approach since it concerns the humans. Hermeneutics is a term adopted into social science from theology and in social science it is concerned with theory and method of interpreting human action (Bryman, 2012). As Bryman further argues, while positivism emphasises *explanation* of human behaviour, interpretative/hermeneutics emphasises *understanding* of human behaviour. In other words, the data collected should enhance understanding of human behaviour. This therefore emphasises qualitative research paradigm with qualitative data, which come from the social actor under study. Those in this interpretivist school of thought are also referred to as constructivist and they are *qualitative purists* who strongly reject positivists' quantitative social research paradigm (Tashakkori & Teddlie, 1998; Johnson & Onwuegbuzie, 2004).

6.4.1.3 The choice of post-positivists stance

The choice of philosophical approach on the nature of investigation and the researcher's belief about how facts could be verified or validated. The following are the philosophical underpinning of post-positivism paradigm:

- Value-ladenness of inquiry: Research is influenced by the value of the investigators.
- Theory-ladenness of facts: Research is influenced by the theory or hypotheses or framework that an investigator uses.
- Nature of reality: our understanding of reality is constructed (Tashakkori & Teddlie, 1998; p8)

The post-positivists' belief is that observations are theory-laden and that the construction of sophisticated scientific apparatus and procedures for data presentation often involve the explicit or implicit acceptance of well-developed scientific theories, over and beyond the theory being tested (Tashakkori & Teddlie, 1998; p9).

The post-positivist critical realists' epistemological position is adopted in this study given that the hypotheses are all rooted in known theories and that the environmental phenomena (realities) exist independently from the perceptions of study participants. The nature of structural relationships and patterns are also hypothesised based on existing theories (Tashakkori & Teddlie, 1998). What is more, the data collected from groups of environmental stockholders in Niger Delta are theory-dependent and they occur within a horizon of expectations (Blaike, 2007). In other words, the testable hypotheses of the structural patterns are expected to provide a better explanation of the relationships among the constructs that associate with environmental pollution.

6.4.1.4 Axiological issues in research philosophy

This is the philosophical perspective that studies judgements about the external and innate values demonstrated by the researcher in the research process (Saunders *et al*, 2009). Although post-positivism paradigm is not value-bound yet the inquiry involves values, which may be controlled (Tashakkori & Teddlie, 1998). Therefore, axiology is concerned with the role the researcher's values play at all stages of the research process. This is an important dimension of research philosophy given that our values are the guiding reason for all our actions. The researchers demonstrate axiological skill by being able to articulate their values as basis for making judgements about what to study and how to conduct the study (Saunders *et al*, 2009).

Hence, Heron suggests the need for researchers to write down their personal values statements as related to the topic of their study.

In line with Heron's suggestion, the researcher presents the following statement of personal value as related to the role accountability procedures could play in enhancing corporate commitment to ES:

- He believes that CRS policy should be geared toward addressing environmental issues proactively;
- He believes that the impact of CSR initiatives on the well-being of the local communities should supersede corporate expected benefits of such initiatives;
- The negative impacts of environmental pollution on local environment should be foreseen, and every possible step taken to minimise pollution to its acceptable level;
- He believes that local communities can use negotiation, protest, and any other legal means to exert pressure for corporate improvement of ES practice instead of involving in criminal actions such as kidnapping and oil production facilities' vandalization; and
- He believes in fairness and impartiality. Oil MNCs should endeavour to be environmental conscious in Nigeria as they are in their home countries and other countries with strong legal systems; and that local communities should reciprocate good environmental practices.

The above stated values are manifested in the researcher as a result of the kind of his upbringing in African communal society and his biblical knowledge acquired from childhood that says, *"do to others what you want them to do for you"*. The researcher holds that equity and fairness principles should not only be followed in human to human transactions but also when it involves corporations and the humans. Besides, the role of expression of individual opinions on matters of interests is well valued in African way of life. Hence, these values have influenced the way researcher framed the data collection instrument and the approach followed in collection of data (Tashakkori & Teddlie, 1998). The focus was to examine the participants' point of views on issues of ES. Such views expressed by the anonymous groups of participants are reflected in the questionnaire they completed. Their opinions helped in analysing and explaining what could lead to better ES practices in Nigeria.

6.4.2 Research Approach

Two main research approaches a researcher can consider when conducting a study are *deductive* and *inductive* approaches (Hair *et al,* 2007; Saunders *et al,* 2009; Bryman, 2012). Apart from guiding in data collection, a research approach clarifies how the researcher intends to derive the theory that will be added to the body of knowledge. The deductive approach involves testing of a theoretical proposition by employing a research strategy specifically designed for this purpose; while induction involves development of a theory as a result of observation of empirical data (Saunders *et al*, 2009). In other words, *inductive logic* is scientific method of research that starts with accumulation of data, which are analysed to produce law-like generalisations about the patterns or connections between events or variables; while *deductive logic* starts with a theory that provides a possible explanation, and then proceeds to test the theory by deducing from it one or more hypotheses, and then matching the hypotheses against appropriate data (Blaike, 2003). The researchers who strictly hold to *inductive logic* exclusively are referred to as q*uantitative purists or empiricists;* while those that hold to *deductive logic* exclusively are referred to as *qualitative purists or rationalists* (Hollis, 1994; Muntersbjorn, 2003). The researcher adopts Francis Beacon's bee's analogical approach to the study (see next section).

6.4.2.1 Bacon on research paradigms: ants, spiders, and bees analogical approaches

The quantitative and qualitative purists' paradigms are analogous to ways ants build their colonies and spiders build their cobwebs, respectively, according to Bacon (1620). Bacon explains that ants often explore the world around them to gather the materials required to build their colonies; while spiders build their cobwebs by generating the materials from within themselves. In Bacon's metaphoric argument, those who endeavour to gain knowledge of the social world around them by making observations and gathering evidence and some examples and using them to build up understanding are likened to ants; whereas those who try to gain knowledge of the world through reasoning are likened to spiders that generate materials from within themselves.

Quantitative purists or empiricists, like ants, merely collect particular data from a lot of data and use them to make a law-like generalisation without being concerned about the pattern or principles that govern the appearance of particular items collected and relationship between them (Hollis, 1994). On the other hand, the *qualitative purists or rationalists*, like spiders that spin webs out of themselves, begin the study of the social world around them by reflecting on the *logical relationships between rules and principles* that describe such world (Muntersbjorn, 2003). They adopt *deductive approach* by beginning with general principles and aiming at deriving specific principles from them through logical implication rather than on the basis of evidence collected or observed. Empiricists, on their part, adopt *inductive approach* to knowledge development in that they begin with specific observations and generalise the outcome of the study (Hollis, 1994).

Bacon (1620) states that instead of approaching the world as ants or spiders, that is *inductively* or *deductively*, the researchers in seeking for knowledge should use the model of bees by combining the strength of both the inductive and deductive approach (ants and spiders). According to Bacon bee takes a middle course: it gathers its materials from flowers of the garden and of the field but digest and transform it by a power of its own. This attractive approach of bees 'captures a general belief that knowledge is, somehow, a blend of theory and experience, to which each contributes something beyond the scope of the other' (Hollis, 1994; p67). Therefore, the ideal source of authority of knowledge gathered about the world around us is to be derived through combination of both observation and reason (inductive and deductive approach).

6.4.2.2 Relevance approach to the study

The logic of inquiry in this study therefore includes deductive and inductive approaches. The social world of Niger Delta region of Nigeria is therefore approached as bees approach their world. The evidence that establishes the *core problems* such as *industrial pollution* associated with crude oil production, *environmental degradation, oil spills and associated impacts on health and economic life* of the host communities are studied objectively using inductive approach. How accountability approach to CSR could alter these variables are scored or scaled and analysed quantitatively. Which is why questionnaire method of data collection was preferred to interview in this study. The inductive research approach in most cases is used when answering *"what"* question (Blaikie, 2010). For instance, "***what are the main CES factors in Nigeria O&G oil industry?"*** The approach was used in conjunction with exploratory factor analysis (EFA) techniques to identify and compare these factors with what is obtainable in the stream of literature on CSR and sustainability before proceeding to study the structural relationships among the factors.

On the other hand, the *connection of these variables to the attitude* of the host communities towards oil companies; corporations' *intention to perform desirable behaviour*; and the *perception of the communities towards corporations' commitment* to environmental issues when they arise; and *how accountability approach to CSR could influence* these basic concepts are studied deductively. The study, by drawing from extant related theories and collecting evidence from necessary stakeholder groups, could aid the explanation of these variables. The deductive approach in most cases is used when answering "*why"* research questions (Blaikie, 2010). For instance, ***"why should oil multinational corporations give serious attention to their environmental obligations in Nigeria?"*** The impression is that the dominant inductive approach may or may not have specific theoretical underpinning; the deductive approach therefore assists in explanation of the results (Creswell, 2003).

6.4.3 Research Strategic Direction

Beyond research consideration, it is necessary to determine the strategy to be adopted in study. As Denscombe (2010 points out, the nature of research questions to be answered influence the research strategy adopted. Specifically, research is carried out to provide *exploratory*, *descriptive* and/or *explanatory* answers to the research questions (Hair, *et al,* 2007). These sorts of answers constitute the research purpose. In some cases, the research question may require combination of all these classes of answers. An exploratory research is valuable when the interest is in gaining more insights into a social phenomenon understudy (Robson, 2002). This approach is useful in clarifying our understanding of the underlying problem of the social issues investigated. The researcher used EFA to identify the factors that could influence CSR contribution to ES in Nigeria. These factors provide clearer understanding of the way the ES could be improved in Niger Delta region of Nigeria.

Descriptive research endeavours to present the profiles of people, things, events or situation by describing their characteristics and attributes (Robson, 2002, Hair et al, 2007). This research purpose sometimes is used along with exploratory or explanatory to drive home the intended objectives (Saunders *et al,* 2009). In the present study, the profile of study participant are analysed descriptively. Besides, the data are also studied descriptively to check for normality and outliers.

On the other, the explanatory research is carried out when the purpose is to establish causal relationships between the variables and provide explanations for such relationships (Saunders, *et al,* 2009). The point is that this kind of research depends, to a considerable extent, on the existing literature on the area of the research and the well-constructed theories (Denscombe, 2010). Again, this purpose clearly stands out in this study given the confirmatory analysis of structural models of connections of accountability variables with that of sustainability. The three purposes are combined in this study.

Given the multi-purpose of the study, the survey strategy was employed to enable answering all the research questions. The survey allows collection of a reasonable amount of data from a sizable population (Saunders *et al*, 2009). As they further suggest, the data collected through survey strategy can be used to suggest possible reasons for existence of a relationships among the variables. More on survey are discussed under data collection procedures.

6.4.4 The Choice of Research Method

The next step in the research design, after clarifying the philological issues, approach and strategic direction is the choice of research method, which could be quantitative, qualitative, or mixed methods (Saunders *et al*, 2009). As they further explain, the quantitative and qualitative terms are used to differentiate the data collection techniques and analysis procedures. According to (Saunders *et al*, 2009):

> Quantitative is predominantly used as a synonym for any data collection technique (such as a questionnaire) or data analysis procedure (such as graphs or statistics) that generate or uses numeric data. In contrast, qualitative is used predominantly as a synonym for data collection technique (such as interview) or data analysis procedure (such as categorising data) that generates or uses non-numeric data (p151).

The choice made in this study is the quantitative one. This choice is in tune with the philosophical stands of the researcher identified as objectivism and post-positivism (i.e. critical rationalism). This choice is also deemed necessary given the nature of the research questions (Blaikie, 2003). Moreover, the survey strategy employed to gather data from groups of environmental stakeholders also makes this choice necessary (Dencombe, 2010). The method is most appropriate in multi-group analysis because it makes groups' perceptions on structural relationships of the constructs to be revealed (Hair *et al*, 2006).

6.4.5 The Research Time Horizons

The research project is often conducted within a time-frame; and the common time horizons used in research are cross-sectional and longitudinal design (Saunders *et al*, 2009). The survey strategy is often employed in cross-sectional studies (Robson, 2002). It involves collection of data on more than one case but at a single point in time (Bryman, 2012). As O'Leary (2005) opines, this kind of studies are conducted when the understudied phenomena need to be described in a specific time. Given the possibility of change in the situation of the phenomenon, the important of time is emphasised in Lewis (2003).

The longitudinal studies on the other hand expand through a given period (Bryman, 2012) and data are collected at various times (Hair *et al,* 2007). This may involve a study of change in people or events. It requires observing of such people or events and keeping diary of the changes over a specified time-frame (Saunders *et al,* 2009). Relatively, longitudinal study is more expensive to conduct than cross-sectional given repetition of data collection (Bryman, 2012).

Although the choice of a time horizon to research design does not depend on the research strategy or method of study, to a considerable extent, it depends on the research question (Saunders, *et al,* 2009). Given the nature of the present research questions and the need to reduce the study cost by collecting the data once, a cross-sectional study was adopted. Besides, the time constraint for research students also makes it more appropriate than the former since it is less- time consuming (Saunders *et al,* 2009). Therefore, data were collected from all respondents in Niger Delta at the same time using similar instrument.

6.5 Data Collection Techniques

This section focuses of sampling and sample selection and data collection methods.

6.5.1 Sampling and Sample Selection Design

> *One of the fundamental prerequisites for the achievement of sustainable development is broad public participation in decision-making. Furthermore, in the more specific context of environment and development, the need for new forms of participation has emerged. This includes the need of individuals, groups and organizations to participate in environmental impact assessment procedures and to know about and participate in decisions, particularly those which potentially affect the communities in which they live and work (Agenda 21, Chapter 23, Section 23.2, Online).*

Against this backdrop, individuals, groups and organizations, considered as environmental stakeholders in Niger Delta, formed interested study population. Their perspectives on similar subject matter were expected, which is why they were asked the same set of questions. The sample was drawn from the external stakeholders (communities, NGOs and experts) and internal stakeholders (employees of related oil companies). The focus was on those who could provide information on observable oil exploration and production activities that have or are likely to have a significant impact on the Niger Delta environment; and provide information on possible environmental protection measures. Therefore, the stakeholders included represent environmental risk perpetrators (oil companies), environmental risk bearers (communities), and environmental risk advisers (experts) (English, 2000).

As mentioned earlier in the second chapter of this thesis, Niger Delta region is made up of 9 States. These participants were drawn from six of them: Edo, Delta, Bayelsa, Rivers, Akwa Ibom, and Cross River State. The first set of samples were drawn from long standing academic institutions in two states in the region, Edo State and Cross River State. In Edo state, University of Benin (UNIBEN) was selected and in Cross River State, University of Calabar (UNICAL). These institutions were purposively selected because they have faculties of social sciences, management sciences, and environmental sciences. The study participants were limited to academic staff members in these faculties. These participants are considered experts in social and environmental issues in the region given their teaching and research experience. All the academics in these faculties formed the population, which is 132 for UNIBEN and 121 for UNICAL. The researcher took census of all them because the number is not large. Hence, every staff member that was reachable was served with the questionnaire. In UNIBEN 118 academics participated in the study while in UNICAL it was 103.

The data collected from this set of participants were strictly used in exploratory analysis of factors that could drive corporate ES in Nigeria. This exploratory factor analysis (EFA) was deemed necessary because the survey data used in testing the structural relationships of the factors has not been used in previous study. It is suggested in Henson & Roberts (2006) that EFA may be required in such a situation, even when theoretical expectations regarding number of factors are present. As Henson & Roberts further argue, 'theory often drives item development, and these items are often subsequently assessed with EFA to help refine the assessment' (p407).

Although samples were drawn from six academic institutions in Niger delta, that of two institutions, UNIBEN and UNICAL were exclusively used in exploring the factors identified in literature using EFA technique. As mentioned earlier, this subset of the data was used exclusively to extract the latent variables employed in analysing the theoretical relationships of the factors. This approach is recommended in Fabrigar *et al* (1999).

The second set of samples used in testing the theoretical pattern of these factors, which are independent of those used in EFA, was drawn from three groups of participants in the same Niger Delta region. The three groups are oil companies, host communities/NGOs, and academics institutions/Ministries of environment. These groups were purposively selected given their closeness to real environmental situations in the region and that they are well informed on the environmental issues related to oil production in Niger Delta. NGOs were grouped with host communities because they work hand in hand and form what UNEP (2011, online) addresses as *civil society*. Academics were also grouped with Ministries of Environment to capture the environmental stakeholders' group UNEP (2011) refers to as *government*. In this study oil companies are addressed as oil multinational corporations (OMNCs) group, the civil society group is referred to as communities & NGOs (CNGOs), and academic is referred to as experts (EXPTs).

By drawing samples from this stakeholder group, the researcher follows Welford *et al* (2008). The choice of drawing sample from academics and treating them as experts was based on specific reasons. First, this is the group of environmental stakeholders English (2000) categorises as environmental risk *experts, researchers and advisers.* Second, they have involved in a considerable number of studies on CSR and environmental sustainability (Kolk & Mauser, 2002). Specifically, Kolk and Mauser assert that 60% research on this area originates from academics. Third, the data collection instrument was developed from existing theories, literature and environmental issues in Nigeria O&G industry. This makes the knowledge of those who have been teaching and researching on CSR and environmental issues imperative. Fourth, majority of the academics are from Niger Delta, which means they have authentic experience.

The sample from OMNCs was drawn from Shell Petroleum Development Company simply referred to as Shell, Total, Exxon/Mobil, and AGIP. Again, these four oil companies were purposively selected on grounds of their long-time interaction with host communities. For instance, Shell started exploring oil in Nigeria as far back as 1937 and made its first commercial volume of oil production from Oloibiri community, an Ijaw village in present Bayelta state in 1957 (Khan, 1994). Besides, these four companies have done business in the region for decades. Therefore, in these companies the departments that directly interface with the external stakeholders such as host communities and government were contacted for data used in this study. These departments were Sustainable Development, Government and Community

Relations Division of Shell, Sustainable Development Division of Total, Community Development Division of Exxon/Mobil, and Public Affairs Division of AGIP. These departments were purposively selected because of the overall aim of understanding basic factors that could influence ES practice in the region. Besides, it is their responsibility to negotiate the environmental issues, on behalf of their respective companies, with local communities and governmental agencies. The researcher believes that they are well informed to supply the most reasonable data needed for the study. The whole employees in these departments were considered as the population for the study; and because they were few everyone qualified as study participant. Therefore, sample taken from Shell was 30, from Total 20, from Exxon/Mobil 25, and from AGIP 20.

Moreover, four of the 6 states (Delta, Bayelsa, Rivers, and Akwa Ibom) mentioned earlier were purposively selected for CNGOs and EXPTs groups' participants. However, *snowball sampling* technique was used to gather NGOs participants and also select the communities. Snowball sampling is a referral sampling technique where the first person met connects the next and so on (Denscombe, 2010). All the NGOs identified in each state were included as sample. From Delta state 10 samples was taken, 8 from Bayelsa, 10 from Rivers, and 12 from Akwa Ibom state.

In terms of sampling of host communities, the researcher, being a Lecturer in one of the participating universities in the Niger Delta region, used the students from the selected four states to get in touch with host communities from their respective states. This approached was deemed necessary because of the security problem in some Niger Delta communities. As suggested in Vershinina & Radionova (2011) they served as intermediary that helped the researcher to gain access to sensitive respondents in the region who are aggrieved for perceived negligent by both oil companies and government. Apart from that, researcher followed UNEP (2011) that used students and staff of University of Port Harcourt (UNIPORT) as intermediary when seeking access to Ogoni communities in Niger Delta.

Three local government areas (LGAs) where HCs are located were selected from each of the four states. The next step was to select the participating communities from a number of host communities within the selected LGAs. At this point a purposive sampling technique was used to select the host communities that eventually participated in the study. The criteria used were visibility of oil production installations, recognition as host community, and geographic proximity to installations such as gas flaring area. In other words, all the host communities selected were either *producing host community* or *terminal host community*, or *transit host community* (Idemudia and Ite, 2006; Idemudia, 2009a). Besides, the communities selected were either arable *farming community* or *fishing community*. Those communities on riverside are fishing communities, while those on upland are arable farming communities. The researcher used these criteria to ensure that those that participated must have experienced real impact of environmental pollution in one way or the other. Based on these criteria only one host community was selected from each LGA.

The sample was taken from households in these HCs. The researcher adopted the approach used in Idemudia (2007a) to sample the selected host communities in Akwa Ibom State. Household as defined in Idemudia (2007a) is a unit of analysis, identified as a person or group of related or unrelated persons who live together in the same dwelling unit(s), who acknowledge one adult as their head and share the same housekeeping arrangements. It was very challenging to establish the number of households in these communities. The researcher anticipated obtaining the list of the households from electoral register and using it as a sample frame, but this was not possible in any of the LGAs in the four states. Besides, in village settlements most houses are owners-occupied houses (see Figure 6.2) and this makes a house to be counted as unit of a household.

Figure 6.2: Owner-Occupied Building in Emerroke 1

Source: Researcher fieldwork

Given this challenge, the households in the selected HCs were numbered with the help of the mentioned students from these areas, the trained field assistants, and the nominated youth of each of the community. The total number of households surveyed, and the sample drawn are as shown in Table 6.2. The sample taken was limited to 50% of the households numbered. Even though the number of households was not too large, yet only 50% was taken because sample was to be taken from other groups and cost of investigation was rising. Specifically, 75 households were included in the sample from Delta state, 60 from Bayelsa, 86 from Rivers, and 92 from Akwa state. Cross-checking from Idemudia (2007a) study 'a total of 72 households were identified in the village of Inua Eyet Ikot (Ibeno), 58 in Ikot Ebidang (Onna) and 48 in Emeoroeke 1 (Eastern Obolo)' in Akwa Ibom State (p7). In this study the researcher got 62 households in Ikot Ebidang, 67 in Inua Eyet Ikot, and 54 in Emeoroeke 1 making a total of 183 households in the three villages in the same Akwa Ibom State. It is worth noting that some houses in all villages in Niger Delta are temporary in nature and very difficult to maintain (see Figure 6.3). Thus, while new ones are built some old ones may have collapsed. Notwithstanding, the total of 313 samples was drawn from host communities in the region.

Figure 6.3: Temporary Thatched-Roof House in Inuaeyen Ikot

Source: Researcher fieldwork

Table 6.2: Sample Size of HCs

State/LGA	Host communities	Households numbered	Household sampled (1/2)
Delta			
Ughelli North	Ikarama	60	30
Isoko South	Afikioko	40	20
Ethiope East	Kokori	50	25
		150	75
Bayelsa			
Brass	Nembe	43	22
Ogbia	Ayama	40	20
Yenegoa	Tombia	36	18
		119	60
Rivers			
Khana	Yorla	50	25
Tai	Korokoro Tai	69	35
Ohoada West	Edagberi	52	26
		171	86
Akwa Ibom			
Onna	Ikot Ebidang	62	31
Ibeno	Inuaeyet Ikot	67	34
Eastern Obolo	Emereoke 1	54	27
		183	92
Total		**623**	**313**

In case of academic participants, sample was purposively drawn from one of the universities in each of these four states: Delta State University (DELSU), Abraka, Delta State; Niger Delta Univervisity (NDU), Wilberforce Island, Bayelsa State; University of Port-Harcourt, (UNIPORT), Rivers State; and University of Uyo (UNIUYO), Akwa Ibom State. The basis for selection was the period the university was established in the state and the presence of faculties of social sciences, business/management sciences, and environmental sciences. The sample was taken from only the lecturers from these faculties. Again, in all these institutions all the available academic staff members were considered eligible study participant. Hence, in DELSU 108 samples were taken, 45 in NDU, 110 in UNIPORT, and 102 in UNIUYO.

The last set of samples was drawn from Delta State Ministry of Environment, Bayelta State Ministry of Environment, Rivers State Ministry of Environment, and Akwa Ibom State Ministry of Environment & Mineral Resources. Only the principal officers such as Directors, and their assistants, and the officers that involve in field inspections were included. Given the limited number of these officers, the entire population served as sample, which of course was a census and not sample. In Delta State Ministry of Environment 5 samples were taken, 4 in

Bayelta State Ministry of Environment, 7 in Rivers State Ministry of Environment, and 4 in Akwa Ibom State Ministry of Environment and Mineral Resources.

The main reason samples were taken from academics, and officers of the Ministries, who may not be directly affected by environmental pollution, was to check for possible bias due to personal interest of oil companies and host communities. Although close ended questions were asked oil companies and the community participants might still select options that are most favourable to them. This may result in bias outcomes. The tendency for such outcomes were observed in Dexter (1970), which states that 'the participant quite consciously modifies the facts as he perceives them in order to convey a distorted impression of what occurred' (p126). The participation of the academics, and Ministries' employees was brought in to provide, to some extent, a neutral perspective on the issues understudy and to boost confidence in the outcomes. Besides, they provided further insight to the environmental issues when groups' perspectives are examined.

6.5.2 Instrument Development and Method of Data Collection

The main data for the study were primary data collected using closed ended questionnaires. The same questionnaire was administered to three groups of participants: oil company employees in departments that handle social and environmental issues; host communities and NGOs; and selected federal institutions (including faculties of business and environmental sciences in federal universities and State Ministries of Environments). The survey instrument was developed by the researcher given the dearth of studies that relate business with environments and societies in developing countries. The decision to develop research instrument for this study was informed by the researcher's ardent desire to advance empirical study in the field of accountability and ES in the context of developing country. The questionnaire that addresses specific corporate and environmental related issues in O&G industry contains thirty-one statements (see Table 6.3A to 6.3E). Theories, prior studies and factors identified in pervious sections were used in developing the research instruments. The statements in questionnaire were categorised based on the concept addressed. The sources of thirty-one items included in the questionnaire with their labels are discussed below.

6.5.2.1 Non-compliance with environmental requirements

When CSR is based on *casual influence* of industrial activities on the stakeholders, Idemudia (2009b) argues that it becomes an obligation, which non-compliance could trigger series of actions from the stakeholders. Simon *et al.* (1993) views such CSR initiatives as means of amending non-performed ethical negative injunction duty of firms (i.e., the duty not to harm local environment during business). Stakeholders' expected environmental standard as argued in Simon *et al.* (1993) is the minimum ethical environmental obligation of every corporation. Roome (1992) argues that non-compliance with expected minimum environmental standards could be easily recognised because it is visible. Bowen (2000) demonstrates that environmental visibility triggers actions that could lead to corporate improvement in environmental behaviour. Based on the foregoing arguments the following three underlying dimensions of non-compliance with expected ethical environmental requirements were drawn.

Table 6.3A: Non-compliance with expected environmental requirements data collection instrument

Non-compliance with ethical environmental standards which demand that corporations should not harm local environment in the course of doing their business is visible to local communities. **(npnid1)**
Business negligence of its ethical environmental obligations grieves host community. **(npnid2)**
Non-compliance shows lack of environmental accountability, which is more about what business does not do than what it does in its business environment. **(npnid3)**

6.5.2.2 Environmental risk awareness and community reactions

The community nature of conflicts with oil MNCs over environmental degradation in Niger Delta are discussed in Obi (2000), Ikelegbe (2005), Fagbohun (2007), Edoho (2008) and Babatunde (2010). In Gadenne *et al.* (2009) awareness of environmental risks of business is linked to strategic actions taken by the environmental stakeholders towards pushing firms to control environmental pollution. Wakefield *et al.* (2001) also relate local communities' reaction to environmental situation with corporate change of environmental behaviour. The underlying dimensions of risk awareness and community reaction were developed based on the situations in Niger Delta and studies of Gadenne and Wakefield as:

Table 6.3B: Environmental risk and community reaction data collection instrument

Decline in farming activities of local communities is associated with undue environmental pollution. **(apepr1)**
Gas flare into atmospheric air causes acid rain. **(apepr2)**
Oil spills on drinkable water create serious health hazards. **(apepr3)**
Uncleaned oil spills leave a lasting effect on ecosystem **(apepr4)**
Uncleaned oil spills grieve affected communities **(apepr5)**
Oil production facilities vandalization is communities' extreme reaction to firm's irresponsiveness to environmental situation. **(cnab1)**
Denial of access to production facilities can draw attention to unattended oil spills. **(cnab2)**
Origin of conflict for resource control is linked to undue environmental pollution. **(cnab3)**
Protest is a way of expressing grievances by host communities over environmental pollution. **(cnab4)**

6.5.2.3 Intentional improvement in environmental behaviour

Fishbein & Ajzen, 2010 incorporate psychological perceptions into reasoned actions taken to avoid negative consequences; and Cardano & Frieze (2000) tested this theory by linking environmental managers' perceptions of norms for environmental regulation with the past source reduction activity of their facilities. Fishbein & Ajzen (2010) theory predicts that beliefs can influence intentional voluntary environmental behaviour. Based on these authors' works three items measuring corporate managers' belief/perceptions were developed, namely:

Table 6.3C: Intentional Improvement data collection instrument

The belief about the consequences of poor environmental performance can drive corporate intention to implement environmental sustainability principles. **(cbi1)**
Corporate perception of stakeholders' pressure can influence its intention to improve environmental behaviour. **(cbi2)**
Corporate perception of the worldviews of its environmental performance can influence its intention to improve environmental behaviour. **(cbi3)**

6.5.2.4 Application of system of accountability and the expected responsiveness

Frink & Ferris (1998) consider accountability system as highly important and salient factor that influences self-set-standards and the expected performance. Burritt & Welch (1997) relate environmental accountability system, which enforcement is an integral part, to the actions taken on behalf of organizations and their resulting impacts on ecological systems. The notion of accountability therefore incorporates the process of monitoring and reviewing programme results and relating the performance outcomes to stakeholders' satisfaction (Jos & Tompkins, 2004). Based on these perceptions the following items were developed:

Table 6.3D: Environmental accountability procedures data collection instrument

Stakeholders' engagement in environmental standard setting is important when implementing environmental accountability procedure. **(eam1)**
Conducting of environmental auditing is important accountability mechanism that puts corporations under obligation to periodically examine their compliance with set standards. **(eam2)**
Making the environmental surveillance the obligation of all stakeholders is necessary accountability implementation procedure that can motivate corporate environmental performance. **(eam3)**
Protest (sanction) against poor environmental behaviour is an enforceability mechanism of accountability that can deter further pollution. **(eam4)**

6.5.2.5: Expected corporate responsiveness to accountability

When viewed in terms of compliance with set standards, accountability traditionally relates to *expectations* of the stakeholders (Jos & Tompkins, 2004). Wood (1991a&b), Jamali & Mirshark (2007) and Yuan *et al.*, (2011) examine such expectations in terms of mitigation of social impact of business, which implies alignment of CSR initiatives with such impacts;

Gonzalez-Benito & Gonzalez-Benito (2005) view in terms of commitment to environmental issues; while Laplante & Spears (2008) focus on environmental information transparency. McGee (2009) emphases the need of consulting the community and obtaining their consent before starting business as this would establish the grounds for accountability. Based on the above studies, the following sixteen items were developed.

Table 6.3E: Corporate responsiveness data collection instrument

Transparency on environmental impact information of the prospective business project is important. **(teii1)**
Environmental impact assessment report informs granting of free, prior and informed consent (FPIC) to business corporation. **(teii2)**
Business will respect terms and conditions upon which free, prior and informed consent of local communities was obtained. **(teii3)**
Stakeholders will exert pressure for corporate transparency on environmental impact of their business activities. **(teii4)**
CSR initiatives alignment with potential impact of pollution is stakeholders' preference. **(csria1)**
CSR initiatives alignment with the potential impact of pollution addresses the impact directly. **(csria2)**
Matching of CSR initiatives with undue environmental pollution can act as deterrent against further pollution. **(csria3)**
Alignment of CSR initiative with negative impacts of environmental pollution enables evaluation of CSR's pollution impacts mitigation capacity. **(csria4)**
Being proactive to environmental issues indicates commitment to environmental sustainability. **(cces1)**
Beyond the regulatory requirements' environmental performance demonstrates commitment to sustainability. **(cces2)**
Compensating for undue pollution indicates advances towards sustainability. **(cces3)**
A timely response to environmental pollution incidence demonstrates corporate commitment to environmental sustainability. **(cces4)**

It needs be said that the statements were modified in terms of style, language and direction to suit the present context. Measurable scales of the items were carefully selected since the nature of scale determines the statistical techniques used in data analysis (Easterby-Smith *et al.*, 2008). Two commonly used scales are category and continuous. Category scales are either nominal or ordinal scale; while continuous are either intervals or ratio scales. In most cases, closed ended questionnaire is used in collecting ordinal data, in which case the respondent is expected to rank the statement (Saunder *et al*, 2009). Therefore, 31 Likert-scaled items with phrases such as *strongly agree, agree, neither agree nor disagree, disagree*, and *strongly disagree* were raised in close-ended questionnaire.

The items were subsequently coded with five-point scales with 5 assigned to strongly agree, 4 to agree, 3 to neither agree or disagree, 2 to disagree, and 1 to strongly disagree. The phrase "neither agree nor disagree" was used as it is less threatening to respondents than admitting *they do not know* (Saunders *et al*, 2009). The respondents ranked the statements by selecting from the lists of these phrases. The same scale was followed on with questions that requested respondents' level of awareness of pollution risks. For example, respondents were asked to indicate their level of awareness by choosing from "very much aware", "moderately aware", "somewhat aware", "slightly aware", and "not at all aware". All items were collected on ordinal scale basis and coded with five-point scales descending from 5 for "very much aware".

Although Udofia (2011) and some other authors argue that parametric statistical test cannot be conducted on data collected by use of Likert-scaled questions measured on ordinal scales; Uzoagulu (1998), Mitchell & Jolley (2004), Ho (2006) and Obalola (2010) support the use of such data. Floyd & Widaman (1995) consider Likert-type items as interval or quasi-interval scales variables given that the rating fall within the specified point of scales. The general argument is that treating ordinal data as interval make them amenable to parametric statistical analysis and thus enhances exploration of interested research questions which cannot be examined with non-parametric analyses (Blackwell *et al*, 2007). Moreover, the robustness of some parametric statistical techniques makes room for the treatment of data obtained on ordinal scale as interval (de Vaus, 2002). Factor analysis techniques employed in this study is very robust, and Ho (2006) suggest that 'variables for factor analysis should be measured at least at ordinal level' (p207). Hence, ordinal scaled data obtained through questionnaire are analysed in this study using factor analysis and structural equation modelling techniques. The items were further labelled as variables shown in Table 6.4. The abbreviations in parenthesis are the labels of respective variables used in this research work.

Table 6.4: Observed Variables' Label

	Data collection instrument	Variable label
B1*	Decline in farming activities of local communities is associated with undue environmental pollution.	Declined farming activities (apepr1)**
B2	Gas flare pollutes the air.	Polluted air (apepr2)
B3	Oil spills on drinkable water create serious health hazards.	Polluted drinkable water (apepr3)
B4	Uncleaned oil spills leave a lasting effect on ecosystem.	Oil spills impact on ecosystem (apepr4)
B5	Uncleaned oil spills grieve affected communities.	Oil spills related grievances (apepr5)
C1	Oil production facilities vandalization is communities' extreme reaction to firm's irresponsiveness to environmental situation.	Oil facilities vandalization (cnab1)
C2	Denial of access to production facilities can draw attention to unattended oil spills.	Denial of access to production facilities (cnab2)
C3	Origin of struggle for resource control is linked to undue environmental pollution.	Struggle for resource control (cnab3)
C4	Protest is a way of expressing grievances by host communities over environmental pollution.	Protest demonstrates grievances (cnab4)
C5	Transparency on environmental impact information of the prospective business project is important.	Importance of transparency on environmental information (teii1)
C6	Environmental impact assessment report informs granting of free, prior and informed consent (FPIC) to business corporation.	EIA informed consent (teii2)

C7	Business will respect terms and conditions upon which free, prior and informed consent of local communities was obtained.	Regards to terms of informed consent expected (teii3)
C8	Stakeholders will exert pressure for corporate transparency on environmental impact of their business activities.	Pressure for transparency (teii4)
D1	Non-compliance with ethical environmental standards that demand that corporations should not harm local environment in the course of doing their business is visible to local communities.	Visibility of non-compliance with environmental standards (npnid1)
D2	Business negligence of its ethical environmental obligations grieves host community.	Grievances for environmental negligence (npnid2)
D3	Non-compliance shows lack of environmental accountability, which is more about what business does not do than what it does in its business environment.	Lack of environmental accountability (npnid3)
E1	Stakeholders' involvement in environmental standard setting is important when implementing environmental accountability procedure. **(eam1)**	Importance of stakeholders' involvement in standard setting (eam1)
E2	Conducting of environmental auditing is important accountability mechanism that puts corporations under obligation to periodically examine their compliance with set standards. **(eam2)**	Conducting of environmental audit (eam2)
E3	Making the environmental surveillance the obligation of all stakeholders is necessary accountability implementation procedure that can motivate corporate environmental performance. **(eam3)**	Environmental surveillance by all stakeholders (eam3)
E4	Protest (sanction) against poor environmental behaviour is an enforceability mechanism of accountability that can deter further pollution. **(eam4)**	Protest deter further pollution (eam4)
F1	CSR initiatives alignment with potential impact of pollution is stakeholders' preference.	CSR alignment is stakeholders' preference (csria1)
F2	CSR initiatives alignment with the potential impact of pollution addresses the impact directly.	CSR alignment addresses pollution impact directly (csria2)
F3	Matching of CSR initiatives with undue environmental pollution can act as deterrent against further pollution.	CSR alignment deters further pollution (csria3)
F4	Alignment of CSR initiative with negative impacts of environmental pollution enables evaluation of CSR's pollution impacts mitigation capacity.	CSR alignment as means of impacts mitigation assessment (csria4)
G1	The belief about the consequences of poor environmental performance can drive corporate intention to implement environmental sustainability principles.	Belief about consequences of poor performance (cbi1)
G2	Corporate perception of external stakeholders' pressure can influence its intention to improve environmental behaviour.	Corporate perception of external pressure (cbi2)
G3	Corporate perception of the worldviews of its environmental performance can influence its intention to improve environmental behaviour.	Corporate perception of worldviews (cbi3)
H1	Being proactive to environmental issues indicates commitment to environmental sustainability.	Environmental proactivity (cces1)
H2	Beyond the regulatory requirements' environmental performance demonstrates commitment to sustainability.	Beyond standards compliance (cces2)
H3	Compensating for undue pollution indicates advances towards sustainability.	Compensating for undue pollution (cces3)
H4	A timely response to environmental pollution incidence demonstrates corporate commitment to environmental sustainability.	Timely response to pollution incidence (cces4)

* Items in Category "B" to "H" were included in the main study, while items in category "A" are demographic data. B1 to B5 are items in Category B and are used in EFA. ** Alpha-numeric values in the parenthesis represent the related variables used in CFA and SEM.

6.5.2.6 Timeline and data collection process

Although cross-sectional design was adopted, data collection process was divided into 3 stages. The first stage was contacting of prospective study participants' communities and companies. The researcher travelled in March 2013 to Nigeria to recruit Field Assistants from Delta state, Bayelsa, Rivers, and Akwa Ibom state. It was easy for the researcher, being a lecturer in one of the universities in Niger Delta, to recruit two Field Assistants among his students from each of the four states selected from nine states in Niger Delta region. They were given adequate training and their role in the field work.

In October 2013, the researcher went to Nigeria again for the second stage of preparation for actual data collection. During the period, through the help of the Field Assistants, contacts were made with communities' leaders of three host communities in each of the four states selected. The purpose of the research was explained and the cover letter from the research Supervisor was presented. After securing permission, households in the selected communities were subsequently counted with help of nominated youths from the community. Again, letter of consent was sent to oil companies selected as participants.

The final stage was dissemination and retrieval of questionnaires. The participating oil companies were officially contacted with introduction letter from research supervisor (see Appendix 4) before they were reached with questionnaire. The distribution and retrieval of questionnaire covered a period of four months, from April to July, 2015. The research made the last trip in respect of field work on June 2015. With the help of Field Assistants, questionnaires were disseminated to all groups of participants. Gaining access to participants in oil companies was not easy. However, through the help of ex-students and security operatives in these companies, questionnaires were sent to respective departments that interface with external stakeholders. Access to participants in academics was not as difficult as it was in case of other groups of participants. Although, some challenges were encountered, especially financial, yet sufficient data were collected for this level of study.

6.5.2.7 Pilot study

Pilot study often assists in developing lines of questions and providing conceptual clarification for research design (Yin, 2003). It is a means of testing and removing ambiguities from data collection instruments. As Saunders *et al* (2009) explains, it is a small-scale study that test the questionnaire to minimise the likelihood of respondents having problems in answering the questions; and it also assesses the questions' validity and the reliability of the data that will be collected. They further suggest that in a small-scale study, such as those conducted by research students, the minimum number for a pilot should be 10.

Against this background, a pilot survey was conducted among 15 participants from academics, and the majority of them have done some work on CSR and environmental issues. Few questions with multiple variables and ambiguities were spotted out and corrected during pilot survey. For instance, question B1 was stated as "Environmental pollution associated with crude oil production impact negatively on health and economic life of local communities". Two problems were identified in this question. The first was problem of relating impact of pollution to both health and economic life in one question, and the second was that economic life was too ambiguous, implying that it will be understood differently by respondents. Therefore, the question was reframed as "Decline in farming activities of local communities is associated with undue environmental pollution". Additional question, "Oil spills on drinkable water create serious health hazards", was asked to take care of impact of pollution on health.

Indeed, the feedback from the pilot study aided the refinement of questions. Such refinement was important as the instrument has not been used previously in any empirical research. The process was very rewarding as the issues identified were adjusted before the questionnaires were administered. This reduced some of the problems associated with collecting and analysing survey data.

6.5.2.8 Administration of questionnaire

The questionnaire is often described as one of the most suitable data collection instruments when using a survey strategy (Saunders *et al*, 2009). This instrument is used in data collection when each person is expected to respond to the same set of questions in a predetermined order (deVaus, 2002; Saunders *et al*, 2009). Saunders further classify questionnaire into self-administered and interview administered. In self-administered questionnaire could be disseminated and retrieved through hand delivery, postal services, and Internet (Densombe, 2010). In this study, hand delivery was the dominant means of disseminating the questionnaire, while Internet service was scantily used were the potential respondents were not physically reachable. Besides, simplified similar questionnaire was served all the groups of study participants (see Appendix 1B). The reason being that their various perspectives on similar issues were expected.

The six academic institutions that participated in this study were divided into two sets. The first set was UNIBEN and UBICAL. In UNIBEN and UNICAL, out of 118 and 103 questionnaires administered, only 64 and 61 respectively, were completed and returned (Table 6.5). The valid and useable questionnaires were 59 from UNIBEN and 57 from UNICAL. Therefore, a total of 116 valid and useable questionnaires were retrieved from these two universities. This aspect of the data was exclusively used in exploring the participants' perspectives of factors that could drive ES in Nigeria. In other words, these data were exclusively used in *identifying*, *assessing*, and *refining* theory based items (Fabrigar *et al*, 1999; Henson & Roberts, 2006) developed for analysing the structural relationships of factors that could influence corporate sustainability policy and practice in Nigeria.

Table 6.5: Questionnaire Distribution in First set of Academic Institution

University	Administered	Returned	Invalid	Valid/Used	% of Used
UNIBEN, Edo State	118	64	5	59	50.86
UNICAL, Cross River State	103	61	4	57	49.14
Total	**221**	**125**	**9**	**116**	**100**

In each of oil companies, after securing an appointment, the hard copies of questionnaire with a copy of the letter of introduction attached were hand-delivered to an appointed employee who assisted in disseminating them to employees of the appropriate departments. This same employee retrieved back the questionnaire after three weeks and delivered them to the researcher. The researcher was not allowed an entrance to those departments but was allowed to communicate on phone with the officer who assigned someone to assist. The systematic approach they followed gave the researcher the impression that they have some predetermined ways of responding to researchers that approach them for research data. The questionnaire administered and retrieved from oil companies are as shown in Table 6.6. The number of questionnaire administered was 95. Out of this value only 43, which is 45% was returned and 41, which is 95% of total retrieved were used in the study as valid and 2 were not used because some questions were not answered.

Table 6.6: Questionnaire distribution in OMNCs Group

OMNCs	Administered	Returned	Invalid	Valid/Used	% of Used
Shell	30	14	1	13	31.71
Total	20	9	-	9	21.95
Exxon/Mobil	25	12	1	11	26.83

AGIP	20	8	-	8	19.51
Total	**95**	**43**	**2**	**41**	**100**

All the participants in host communities were reached with questionnaire through hand delivery. The researcher and the field assistants through the help of the intermediary (Vershinina & Riodonova, 2011) disseminated the questionnaire to the sampled households in the host communities. Where the enlightened adults were at home the instrument was completed and returned the same day before the team left the community. However, others were collected subsequently after two weeks. Some of the communities were visited more than twice. The summary of questionnaire administered and retrieved in host communities is as shown in Table 6.7. In HCs out of 313 questionnaires administered a total of 101 were completed and returned, this represents 32.3 %.

Table 6.7: Questionnaire Distribution in HCs

State/LGA	HCs	Administered	Returned	Invalid	Valid/Used	% of Used
DELTA						
Ughelli North	Ikarama	30	11	3	8	
Isoko South	Afikioko	20	13	1	12	
Ethiope East	Kokori	25	10	3	7	
		75	34	7	27	26.73
BAYELSA						
Brass	Nembe	22	9	3	6	
Ogbia	Ayama	20	5	-	5	
Yenegoa	Tombia	18	7	3	4	
		60	21	6	15	14.85
RIVERS						
Khana	Yorla	25	10	1	9	
Tai	Korokoro Tai	35	13	3	10	
Ohoada West	Edagberi	26	9	1	8	
		86	32	5	27	26.73
AKWA IBOM						
Onna	Ikot Ebidang	31	13	2	11	
Ibeno	Inuaeyet Ikot	34	17	3	14	
Eastern Obolo	Emereoke 1	27	11	4	7	31.68
		92	41	9	32	
Total		**313**	**128**	**27**	**101**	**100**

LGA = Local Government Area

In Table 6.9 out of 10 questionnaires distributed among NGOs in Delta State only 7 were returned and 6 were valid and useable. 8, 10, and 12 were administered among NGOs in Bayelsa, Rivers, and Akwa Ibom, respectively. In Bayelsa, out of 5 questionnaires returned only 4 were valid and useable. In Rivers, out of 8 returned only 5 were valid and useable; while 6 of the 8 returned in Akwa Ibom were valid and useable. Among the NGOs a total of 21 respondents completed the questionnaire out of 40. This value represents 52.5% of the total administered.

Table 6.8: Questionnaire Distribution among NGOs

State	Administered	Returned	Invalid	Valid/Used	% of Used
Delta	10	7	1	6	28.57
Bayelsa	8	5	1	4	19.05
Rivers	10	8	3	5	23.81
Akwa Ibom	12	8	2	6	28.57
Total	**40**	**28**	**7**	**21**	**100**

LGA = Local Government Area

The questionnaires were also administered in the second set of academic institutions in four states (Delta, Bayelsa, Rivers, and Akwa Ibom) where samples were taken from host communities and NGOs. In DELSU, 108 questionnaires were disseminated and 34 were completed and returned, however only 31 were valid and useable in the study (Table 6.8). In NDU, 45 questionnaires were administered and out of 18 completed and returned only 16 were valid and useable. In UNIPORT, 110 were administered and out of 39 completed and returned only 38 were useful. Also in UNIUYO, 102 questionnaires were administered and only 39 out of 42 completed and returned were valid and useful. A total of 365 questionnaires were administered in these four universities, however only 133, which is 36.4% were completed and returned.

Table 6.9: Questionnaire Distribution in Second Set of Academics Institutions

University	Administered	Returned	Invalid	Valid/Used	% of Used
DELSU, Delta State	108	34	3	31	25.00
NDU, Bayelsa State	45	18	2	16	12.90
UNIPORT, Rivers State	110	39	1	38	30.65
UNIUYO, Akwa Ibom State	102	42	3	39	31.45
Total	**365**	**133**	**9**	**124**	**100**

Again, a total of 20 questionnaires were disseminated among the State Ministries of Environment (see Table 6.10). Only 16 out of this were returned and this represents 80% of the value disseminated. There was only 1 invalid respondent, while 15 were valid and useful.

Table 6.10: Questionnaire Distribution in State Ministries of Environment (SMOE)

SMOE	Administered	Returned	Invalid	Valid/Used	% of Used

Delta	5	3	-	3	20.00
Bayelsa	4	4	1	3	20.00
Rivers	7	5	-	5	33.33
Akwa Ibom	4	4	-	4	23.67
Total	**20**	**16**	**1**	**15**	**100**

In summary, a total of 41 respondents made up of OMNCs' group (Table 6.12); while 122 respondents made up the CNGOs' group with 101 from HCs and 21 from NGOs (Table 6.11). Again, a total of 139 respondents made up EXPTs' group with 124 from academic institutions and 15 from SOME (Table 6.12).

Table 6.11: Summary of Valid Sample from Communities and NGOs (CNGOs) group

State	HCs	NGOs	Valid/Used	% of Used
Delta	27	6	33	27.05
Bayelsa	15	4	19	15.57
Rivers	27	5	32	26.23
Akwa Ibom	32	6	38	31.15
Total	**101**	**21**	**122**	**100**

Table 6.12: Summary of Valid Sample from Academics and SMOE – EXPTs group

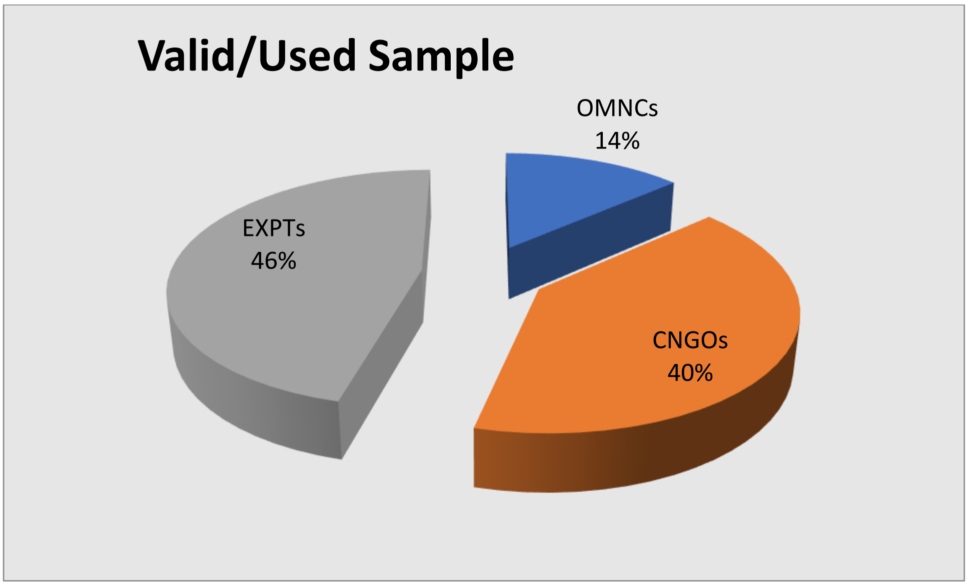
State	Academics	SMOE	Valid/Used	% of Used
Delta	31	3	34	24.46
Bayelsa	16	3	19	13.67
Rivers	38	5	43	30.94
Akwa Ibom	39	4	43	30.94
Total	**124**	**15**	**139**	**100**

Table 6.13: Summary of Valid Sample from OMNCs, CNGOs, and EXPTs

Group	Valid/Used	% of Used
OMNCs	41	13.58
CNGOs	122	40.40
EXPTs	139	46.03
Total	**302**	**100**

Table 6.13 and Figure 6.4 portray the groups' representation of study respondents in the second set of samples. Out of 302 respondents that are included in the confirmatory analysis of structural relationships of factors that could influence corporate ES in Niger Delta, only 41 (14%) represents OMNCs' group, 122 (40%) represents CNGOs, and 139 (46%) represents the EXPTs' group.

Figure 6.4: Study Groups' Participants in Percentage



The same questionnaire was administered to all the participants in the first set of samples and in the second set, irrespective of the sample group. The main different is in the demographic section, which was adjusted to capture state and local government of those in the first set of samples and in CNGOs and EXPTs groups.

6.6 Data Analytical Procedures.

6.6.1 Internal Reliability and Validity Issues

The need for a good research design that takes care of validity and reliability of the study is emphasised in literature (Saunders *et al*, 2009; Bryman, 2012; Denscombe, 2010). The analysis of quantitative data as Denscombe (2010) suggests should include a reasonable effort to ensure that the data have been recorded accurately; the data are appropriate for the purposes of the investigation; and that the explanations derived from the analysis are correct. The initial step towards data validation in the present study was *data checking* and *re-checking* to ensure that no data-entry-errors occurred (Denscombe, 2010). The means and standard deviations were also used to check for outliers among data. In terms of measurement models, the standard factor loadings of observed variables (items) on latent variables (factors) are estimates of the validity of the observed variables (Doll *et al*, 1994).

In SEM reliability and validity of measurement instruments are given a serious attention. Hence the reliability and validity tests of the variables were conducted. Reliability test establishes the extent to which a variable or set of variables is consistent in measuring what it is intended to measure; while validity test examines the extent to which a measure or set of measures correctly represents the concept of the study – the degree to which it is free from systematic or non-random error (Hair *et al*, 2006). ‘Validity is concerned with how well the concept is defined by the measure(s), whereas reliability relates to the consistency of the measures(s)’ (Hair *et al,* 2006; p104). This aspect of consistency is considered as internal consistency of the measurement instrument (Ho, 2006). In confirming external reliability of the items, the test results of the items against themselves are examined (Ho, 2006). In multiple measurements, as it is in this study, the reliable measures should have consistent values (Hair *et al*, 2006).

Three main methods of testing for the reliability of the instruments are given in Ho (2006) as *split-half technique*, *Cronbach’s alpha*, and *item analysis*. The split-half approach correlates one-half of the items. The higher the correlation coefficient, the more measurable items are consistent. Cronbach’s alpha captures the estimated average of all the correlation coefficients of the measured items within the test. Generally, the alpha (α) of 0.6 and above indicates satisfactory of items reliability (Ho, 2006). Item analysis is achieved through item-total-correlation procedure. It enables refinement of test reliability by identifying and eliminating inconsistent items in the test (Ho, 2006).

Given the use of CFA and SEM techniques of analysis in this study construct reliability was also tested by computing composite reliability (CR) index. The CR of ≥ 0.6 indicates construct reliability (Chong *et al.*, 2014). Composite reliability of a construct is defined as:

$$\mathrm{CR} \quad = \quad \frac{(\Sigma \Lambda)^2}{(\Sigma \Lambda)^2 + \Sigma \varepsilon}$$

Where $\Sigma \Lambda$ = sum of factor loadings, and $\Sigma \varepsilon$ = sum of variance of error measurement.
While AVE is defined as:

$$\mathrm{AVE} \quad = \quad \frac{\Sigma \delta^2}{\Sigma \delta^2 + \Sigma \varepsilon}$$

Where $\Sigma \delta^2$ = sum of squared factor loadings (i.e., squared multiple correlation).

Again, a more authentic validity tests such as convergent and discriminant validity are also considered necessary in CFA and SEM. Convergent validity is based on average variance extracted (AVE) which should be ≥ 0.5 and discriminant validity examines the correlation values among the exogenous variables which should not exceed 0.85 (Chong *et al.*, 2014). Specifically, the discriminant validity tests the degree to which scores on a test do not correlate with scores from other tests that are not designed to assess the same variable (Chong *et al.*, 2014). The multi-collinearity problems exist where the correlation coefficients are too high (Ho, 2006; Hair *et al*, 2006; Chong *et al.*, 2014).

6.6.2 Factor Analysis

Factor analysis is an interdependence technique in which a large set of variables is analysed simultaneously in terms of their bivariate relationships (Blaike, 2003). The main aim of this analytical technique is to simplify a large number of inter-correlated measures into a few representative constructs or factors (Ho, 2006). As Ho further explains, factor analysis assumes that all measurable variables are correlated to some degree. That is, the variables with similar *underlying dimensions* will be highly correlated among themselves while those measuring dissimilar dimensions will yield low correlations (Blaike, 2003; Ho, 2006). Ho points out that the high/low correlation coefficients will be observed in the correlation matrix given that they form clusters indicating those variables that "hang" together. The primary function of factor analysis is to identify these clusters of highly inter-correlated variables as independent factors (Ho, 2006). These independent factors are '*latent variables* present in the patterns of correlations among a set of measures' (Blaike, 2003; p220).

Therefore, in line with the first objective of this study which is to identify factors that could influence corporate ES policy and practice in Nigeria, factor analysis technique was employed. There are two modes of factor analysis – 'R' mode and 'Q' mode. As Hair, Black, Babin, Anderson & Tatham (2006) indicate, the choice of the mode depends on the research objective. If the research objective were to summarise the characteristics of a large number of measure of variables collected through test scores or respondents, 'factor analysis would be applied to a correlation matrix of the variables. This most common type of factor analysis, referred to as *R factor analysis*, analyses a set of variables to identify the dimensions that are latent (not easily observed)' (Hair *et al*, 2006; p107). On the other hand, when factor analysis is applied to a correlation matrix of the individual respondents based on their characteristics, Q mode is adopted. Q factor method 'combines or condenses large numbers of people into distinctly different groups within a larger population' (Hair *et al*, 2006; p107). 'R' mode is applicable in this study since the expected factors are the *latent constructs* that will be derived from a number of measured variables collected through questionnaire.

Specifically, factor analysis serves two main purposes. The first usage is in exploring the underlying factors that are present in responses to a set of measures, which is referred to as exploratory factor analysis (EFA), while the second which is to confirm whether a set of measures are related in the form that is specified in a model of their relationships is referred to as confirmatory factor analysis (CFA) (Blaike, 2003). As Blaike (2003) further explains, EFA sets out with assumption that everything is related with everything, while CFA specifies how the variables might be related and then sets out to show whether this is the case. EFA is 'a general-purpose dimension reduction tool with many applications' (Osborne, 2015; p1) Moreover, Ho (2006) gives three basic steps to EFA analysis as:

- Computation of the correlation matrix for all variables.
- Extraction of initial factors
- Rotation of the extracted factors to a terminal solution (p204).

The statistical software used in carrying out the analysis was Statistical Product and Service Solutions (SPSS) version 22. Though there are seven methods of extracting factor solutions in SPSS 22, *principal components analysis* and *common factor (principal axis factoring) analysis* are basic (Ho, 2006). The principal components analysis considers the total variance explained and derives factors that contain small proportion of unique variance; while common factor analysis considers only the common or shared variance, assuming that both the unique and error variance are not of interest in defining the structure of the variables (Hair *et al,* 2006). That is, in *common factor*, 'EFA examines only the shared variance from the model each time a factor is created, while allowing the unique variance and error variance to remain in the model' (Osborne, 2015; p2). In EFA, the rationale for selecting between *principal components* and *common factor* analysis depends on whether the research objective is identification of latent variables (LVs) or data reduction (Floyd & Widaman, 1995; Hair *et al,* 2006).

In this study, the first research objective is identification of LVs from the observed variables. Therefore, *common factor analysis* was employed in order to extract relevant latent dimensions of CES factors. As emphasised in Floyd & Widaman (1995) and Hair *et al* (2006), common factor analysis is most appropriate when the primary objective is to identify the latent constructs represented in the original variables. Although the approach is sound in unobserved constructs identification, yet it suffers from factor indeterminacy, which implies that in every respondent, several different factor scores can be calculated from a single factor model result (Hair *et al*, 2006). However, the consolation is that the principal components analysis and common factor analysis produce equivalent results in most of the empirical research (Velicer

& Jackson, 1990; Hair *et al*, 2006). The reason is that oblique rotations used in principal component analysis do not force factors to be correlated, instead factors would be allowed to assume a correlation of zero, and the solution would be the same as that of an orthogonal rotation in EFA (Osborne, 2015). Consequently, the choice of method of factors' extraction has no significant effect on the results.

The extracted initial unrotated factors are obtained through eigenvalues and scree plot test criteria. Eigenvalue is used in determining the amount of the total variance attributed to each factor. This is the *column sum of squared loadings* for each factor, also referred to as the latent root (Hair *et al*, 2006). 'The higher the eigenvalue, the greater the variance explained by that factor' (Blaike, 2003; p223). However, the rule of thumb is to consider those factors with eigenvalues greater than 1.0 (Ho, 2006; Blaike, 2003). Scree test is also used to identify optimum number of factors that can be extracted before the number of unique variance begins to dominate the common variance structure (Ho, 2006; Hair *et al*, 2006).

There are two broad methods of rotations: orthogonal and oblique (Osborne, 2015). Orthogonal rotations produce factors that are uncorrelated (i.e., maintain a 90^o angle between axes); oblique methods allow factors to correlate (i.e., allow X and Y axes to assume a different angle than 90^o) (Osborne, 2015; p4). In this study, orthogonal factor rotation method was used in extracting the rotated solution. There are three methods of the orthogonal rotation: varimax, quartimax, and equimax. Among the three, varimax is the most widely used method (Ho, 2006; Hair *et al*, 2006). According to Ho (2006), it gives the clearest separation of factors by producing the maximum possible simplification of columns (factors) within the factor matrix. This method is used in identifying cluster of factors that could influence CES policy and practice in Nigeria. A total of 31 statements were made in the questionnaire using 1 to 5 points measures, where 1 represents "Not at all aware" or "Strongly disagree" and 5 captures "Very much aware" and "Strongly agree" in Likert scale. The responses of the participants to these items are reflected in the cluster of factors analysed subsequently using EFA, CFA and SEM.

6.6.2.1 Exploratory factor analysis as a prerequisite to SEM analysis

In SEM, where dependent and independent variables analysed are obtained using the same survey instrument as is in this study, the result may be affected by common-method bias. This bias is one of the main sources of measurement error which Podsakoff *et al.* (2003) assert that it 'threatens the validity of the conclusions about the relationships between measures and is widely recognised to have both a random and a systematic component' (p879). Although both types of error are problematic, Podsakoff *et al* state that systematic measurement error poses a serious problem because it provides an alternative explanation for observed relationships between measures of different constructs that is independent of the one hypothesised. One of the main sources of a systematic measurement error, according to Bagozzi & Yi (1991), is method variance, which is variance attributable to the measurement method rather than the construct of interest. The term method refers to the form of measurement at different levels of abstraction such as the content of specific items, scales type, response format, and the general context (Bagozzi & Yi, 1991; Podsakoff *et al.*, 2003). To handle this problem, the procedural remedies related to survey design were followed as suggested by (Podsakoff *et al.*, 2003). The respondents' anonymity was guaranteed, and the purpose of research clarified.

Indeed, the modern conceptualizations of factor analysis include both exploratory and confirmatory methods, as well as hybrid invoking exploratory factor extraction followed by confirmatory rotation or confirmatory maximum likelihood factor analysis (Thompson, 1992; Fabrigar et al, 1999; Henson & Roberts, 2006). CFA is generally used to *test theory* when the analyst has sufficiently strong rationale regarding what common factors should be in the data and what variables should define each of the factor (Henson & Roberts, 2006). In a situation where a researcher has relatively little theoretical or empirical basis to make strong assumptions about number of such common factors or what specific measured variables these common factors are likely to influence, EFA is plausible than CFA (Fabrigar *et al*, 1999).

EFA is an approach used to address common-method bias statistically (López-Gamero *et al.*, 2010). In this study, the structural relationships of the factors that could influence corporate environmental policy and practice were hypothesised. However, there is no empirical study that has ever examined such relationships neither had the measured variables been empirically tested previously. This poses possibility of common method bias. Therefore, *Harman's single factor test* was conducted using EFA statistical technique (Harman, 1976). This test requires that all factors that are used in measuring both dependent and independent variables be analysed in a single EFA. In this study the analysis of 31 items produces eight factors with eigenvalues > 1 (see appendix 2). These eight factors explain 79.62% of the variance in the data, with the first factor extracted accounting for 28.68% of the variance in the data. Given that more than one factor is extracted from the 31 items and less than 50% of the variance can be attributed to the first factor (i.e., 28.68%), common-method bias is unlikely to be a significant issue with the data collected (López-Gamero *et al.*, 2010).

Besides, where the instrument used is still developing and the analyst has untested preliminary theoretical expectations, EFA is often used in refining the factors before following it up with CFA (Henson & Roberts, 2006). In other words:

> An EFA can be conducted in an initial study to provide a basis for specifying a CFA model in a subsequent study. Alternatively, if the sample size in a single study is sufficiently large, the sample could be randomly split in half. An EFA could then be conducted on one half of the data providing the basis for specifying a CFA model that can be fit to the other half of the data (Fabrigar *et al*, 1999, p277).

It is a cross-validation strategy where the researcher can use a subsample to determine a well-fitting model before the hypotheses of this model is tested, statistically, using confirmatory procedures on data from the second subsample (Byrne, *et al*., 1989). Fabrigar *et al.* (1999) and Henson & Roberts (2006) suggest that EFA could be employed in identifying, assessing, and refining the factors even when researcher has some theoretical expectations. Therefore, EFA method was used to 'identify the factor structure or model for a set of variables' (Bandalos, 1996, p389). This approach was previously operationalised in Moneva & Ortas (2010). In their study, they extracted principal components of LVs of CEP and CFP using EFA before using partial least squares model to study the structural relationships of these LVs.

In this study, the alternative approach suggested in Fabrigar *et al* (1999) was followed by using part of the data to identify the LVs using EFA before conducting CFA. Therefore, out of the total sample size of 418 used in this study, 116 sample, drawn from UNIBEN in Edo State and UNICAL in Cross River State, were employed in factor identification using common factor extraction method; while 302 employed in examining structural relationships of the LVs using CFA method (see Table 6.5). UNIBEN and UNICAL were selected because two of them provide the minimum of 100 sample size needed for EFA (Fabrigar *et al*, 1999). EFA aspect of the analysis addresses research question 1 and enables achievement of research objective 1.

6.6.3 Structural Equation Modelling

Structural equation modelling (SEM) is an analytical technique used in analysing the relationships between a series or network of interrelated predictor LVs (Blaike, 2003; Schreiber et al, 2006). It is a multivariate technique that can be described as a combination of both *factor analysis* and *path analysis* (Ho, 2006). As Ho (2006) points out, it allows the analyst to examine a series of dependence relationships between exogenous variables and endogenous variables simultaneously. The variability of exogenous variable is assumed to be determined by causes outside the causal model, while variation in the endogenous variable is explained by exogenous and other endogenous variables in the causal model (Ho, 2006).

Furthermore, Ho (2006) states that the usefulness of SEM in research is distinguished from other statistical techniques by three characteristics such as:

- It provides a method of dealing with multiple relationships simultaneously.
- It is able to represent unobserved (latent) concepts in the analysis of dependence relationships.
- It improves statistical estimation by accounting for measurement error in the estimation process (p281).

LVs are hypothesised or unobserved constructs which cannot be measured directly. 'It can only be approximated by observable or measured variable' Ho, 2006, p282). The minimum of 3 measured variables per latent construct is empirically found to be adequate (Velicer & Feva, 1998). This is achieved in this study. Such hypothetical constructs are related to each other in certain ways as specified by the investigator's theory (Bentler, 1990). In this study for instance, the *corporate non-compliance with environmental requirements (NonCompli) relates with local communities' reaction (ComReact) towards oil companies in Nigeria.* Although negative attitudes such as oil production facilities vandalization and kidnapping of oil companies' workers for ransom are attributed in literature to corporate negligent of their social and environmental obligations towards local communities (Ikelegbe, 2005; Ako, Obokoh, & Okonmah, 2009, Hamilton, 2012), there is no clear empirical evidence. Therefore, EFA was used to clearly identify underlying dimensions of these constructs before their relationships estimated using CFA and SEM techniques.

Specifically, SEM, in comparison with CFA, provides the possibility of relationships among the LVs; and it encompasses two parts – a measurement model (essentially the CFA) and a path model (Schreiber, 2006). The measurement model enables specification of basic rules followed in deriving theoretical unobserved LVs through observed variables. These ‘unobserved latent variables cannot be measured directly but are indicated or inferred by responses to a number of observable variables (indicators)’ (Lei & Wu, 2007; p34). As mentioned earlier 31 observable variables were in the questionnaire administered, but 25 succeeded to load into 8 factors used in CFA and SEM analysis.

Path analysis is considered as an extension of multiple regression analysis in that it involves several multiple regression models or equations that are estimated simultaneously. This approach provides an effective and direct way of modelling *mediation*, *indirect effects*, and other *complex* relationships among variables (Lei & Wu, 2007). Path analysis in this context can be considered as a special form of SEM in which structural relationships among observed and LVs are modelled concurrently.

> Structural relations are hypotheses about directional influences or causal relations of multiple variables (e.g., how independent variables affect dependent variables). Hence, path analysis (or the more generalized SEM) is sometimes referred to as causal modelling. Because analysing interrelations among variables is a major part of SEM and these interrelations are hypothesized to generate specific observed covariance (or correlation) patterns among the variables; *therefore,* SEM is also sometimes called covariance structure analysis (Lei & Wu, 2007; p34).

The Structural Equation Modelling (SEM) technique was used in estimating the values of LVs and their correlation relationships. Hence, the research hypotheses 1 to 11 were tested using this technique and answers to research questions 2 to 5 provided.

6.6.4 Multi-Group Invariance Analysis

Several CFA applications such as LISREL (LInear Structural RELations), EQS (an abbreviation for equations) and AMOS (Analysis of Moment Structures) are used in analysing different groups of respondents within CFA framework (Hair *et al,* 2006). CFA models of factorial invariance enable testing of the structure of a model or its individual parameters for equivalence across groups or conditions (Deng *et al,* 2005). Though multi-group invariance (MGI) models are accommodated within CFA framework, general statistical tests of hypothesis concerning potential differences among these groups are carried out using SEM (Hair *et al,* 2006). It is considered in Cheung & Rensvold (2002) as an extension of CFA, often referred to as multi-group confirmatory factor analysis. The factorial invariance tests begin with testing the equality of covariance structures across groups. For instance, H_o: $\sum_1 = \sum_2 = ... \sum_G$, where

G is the number of the groups. Failure to reject the null hypothesis (i.e., existence of significant variance) is interpreted as evidence of invariance across groups; except for mean structures, the groups can be treated as one (Byrne, 2004).

MGI analysis is concerned, primarily, with testing for measurement invariance across groups. That is, if the items used in survey-type instruments mean the same thing to members of diverse groups (Cheung & Rensvold, 2002). It is also used in testing whether the underlying construct being measured have the same theoretical structure for each group (Byrne, 2008). It could be applied in analysing groups' various levels of educational achievement (Byrne, Shavelson, & Muthén, 1989), experimental groups along with control groups (Pentz & Chou, 1994) and different genders' respondents (Byrne, 2004).

Therefore, in this study the researcher was interested in knowing whether the survey instruments mean the same thing to the core environmental stakeholders' groups, oil multinational corporations (OMNCs), communities & NGOs (CNGOs), and government agencies captioned as "experts" (EXPTs) group. EXPTs group was drawn from academic, Federal Ministry of Environment, and environmental regulatory agencies in Nigeria. Those in this latter group are not immediate oil producing communities (see Chapter 2 for definition). They could be classified as remote communities and environmental regulatory stakeholders.

MGI was also used in examining whether the underlying constructs measured in this study have similar theoretical structure across all the groups. Though there are other invariance tests such as residuals invariance some authors consider them as unnecessary stringent constraints, which are hardly found to be equal (Byrne, 2008). Hence, the present study is limited to testing of measurement and structural invariance across groups. The Chi-square (χ^2) of constrained model is nested with the unconstrained χ^2 used as baseline. The degree of invariance is most often assessed by the Likelihood Ratio Test (differences in χ^2 between two nested models) even though researchers argue that differences in χ^2 are also dependent on sample size (Brannick, 1995; Kelloway, 1995; Cheung & Rensvold, 2002).

In every set of cross-group constraints, the means and intercepts of the LVs are unidentified (Arbuckle, 2013). In order to allow the models to be identified for at least some cross-group constraints, it is necessary to choose one group as a control group, and fix the factor means and intercepts to a constant, such as 0 (Arbuckle, 2013). When the means of the LVs in one group is fixed at zero, it is possible to estimate the means in the other groups, and these means will then express the differences in means between the various groups and the reference group (Blunch, 2013). *The estimate indicates whether the means is significantly difference from zero*. It needs be mentioned that the choice of a constant group does not affect the results (Arbuckle, 2013). In other word any group can be selected as a constant group and a value apart from 0 can also be assigned as a constant.

6.6.4.1 Model fit indices

In this study, maximum likelihood methods (MLE) were used in estimating the parameters. The analysis begins by fitting a model to the data for each sample considered separately with none of the parameters constrained to be equal across groups (Bagozzi & Yi, 1988; Koufteros & Marcoulides, 2006). Goodness -of- fit (GOF) indices assess the congruence between the data and the model (Deng *et al,* 2005). No single fit index is considered sufficient, rather, as suggested in Wheaton (1987) several should be reported depending on the nature of the analysis.

Therefore, the GOF of the models was evaluated using both absolute and relative indices. The absolute GOF indices computed were:

1) χ^2 goodness-of-fit statistics,
2) Root mean squared error of approximation (RMSEA),
3) Goodness-of-fit index (GFI)

The χ^2 statistic is the most fundamental absolute fit index, and important statistically based SEM fit measure (Hair *et al,* 2006). It tests the difference between the observed covariance matrix and the one predicted by the specific model (Schaufeli *et al.,* 2002). Generally, when the χ^2 test is used, the researcher often intends to reject the null hypotheses and support the alternative. In other words, the researcher is looking for differences (i.e large χ^2 values) to support the non-metric measures (Hair *et al,* 2006). That is, the *larger* the χ^2 the *better* the model-data fit. However, in SEM the researcher is looking for no difference or insignificant values of χ^2 between the actual and the predicted matrices (Ho, 2006; Hair *et al,* 2006). In this scenario, the intention of the researcher is not to reject the null hypotheses. Hence, the *smaller* the χ^2 value the *better* the model-data fit. Given that the χ^2 increases with increase in sample size and it is sensitive to departures from normality of multivariate observed variables, Ho (2006) and Hair *et al* (2006) suggest complementing of χ^2 with other goodness-of-fit measures. To overcome the size sensitivity problem, Bentler (1990) strongly recommends the use of relative goodness-of-fit indices in addition.

Besides, GFI and RMSEA are additional absolute GOF measures used in this study. The GFI measures the relative amount of variance accounted for by the model (Schaufeli *et al.*, 2002). The GFI attempts to produce a fit statistic that is less sensitive to size of the sample (Hair *et al*, 2006). It is a non-statistical measure that examines how better a model could fit if compared with no model at all (Jöreskog & Sörbom, 1989). The values range from 0, which indicates poor fit to 1, which indicates perfect fit. Although no generally acceptability value is set, values from 0.9 and above are considered good fit (Jöreskog & Sörbom, 1993; Hair *et al*, 2006; Chong *et al.*, 2014).

The error of approximation refers to lack of fit of model to the population covariance matrix and RMSEA is the measure of the discrepancy per degree of freedom for the model (Schaufeli *et al.*, 2002). It represents better how well a model fits a population, not just a sample used in the estimation (Hair *et al*, 2006). It considers the error of approximation and explicitly tries to correct for both model complexity and sample size problem by including each in its computation. Again, authors differ on acceptable values of some good-fit assessment indicators. For instance, Ho (2006) considers RMSEA values between 0.050 and 0.080 as acceptable fit, 0.080 to 0.10 mediocre fit, and those greater than 0.100 poor fit. Deng *et al*, (2005) on their part opine that RMSEA value below 0.050 suggests good model-data fit and value from 0.050 to 0.100 indicates acceptable fit. From Hair *et al*, (2006) point view the lower the value of RSMEA the better the model-data fit.

The relative goodness-of-fit indices computed in the study are:

1) Tucker Lewis Index (TLI) and
2) Comparative fit index (CFI).

The TLI is a non-normed index, and thus its values can fall below 0 and above 1 (Hair *et al*, 2006). That is, it takes model parsimony into account and can fall outside the range due to sampling fluctuation (Schaufeli *et al.*, 2002). Finally, CFI is an incremental fix index that is normed so that values range between 0 and 1, and it is a population measure of model misspecification that is particularly recommended for model comparison (Schaufeli *et al.*, 2002). The values ≥ 0.90 are indicators of good fit in both TLI and CFI (Bagozzi & Yi, 1988); while values ≥ 0.80 suggest adequate model-data fit (Deng *et al*, 2005). The summary of criteria employed in evaluating the model fit is as presented in Table 6.14.

Table 6.14: Summary of Evaluation Criteria Based on Model Fit

Primary Fit Criteria: Absence of

- Negative error variances
- Error variances not significantly different from zero (unless defensive)
- Correlations >1
- Correlations too close to 1 (i.e. within two standards deviations of unity)
- Factor loadings too small (e.g. < about 0.5) or too large (e.g. > about 0.95
- Very large standard errors

Overall Model Fit: Achievement of

- Non-significant χ^2 (e.g. χ^2 with p-value ≥ 0.05
- Adequate statistical power of χ^2-test
- Satisfactory incremental fit index (i.e. $\Delta \geq 0.9$)
- Satisfactory goodness-of-fit index (AFGI ≥ 0.9 or so)
- Satisfactory model comparisons (e.g. through χ^2 difference tests)
- Low root mean square residuals
- High coefficient of determination
- Satisfactory critical N

Fit of Internal Structure of Model: Achievement of

- High individual item (e.g. $\rho i \geq 0.5$)
- High composite reliabilities (e.g. $\rho c \geq 0.6$
- Average variance extracted ≥ 0.5
- Significant parameter estimates confirming hypotheses
- Normalised residuals < 2
- Adequate power to detect causal path

Source: Adapted from Bagozzi & Yi, 1988, p82.

6.6.4.2 Model modification indices

Model modification is a post hoc model fitting approach that addresses the problem of model misfit in SEM (Byrne *et l.,* 1989). Modification index is an amount of the overall model χ^2 value that would be reduced by freeing any single path that is not currently estimated (Hair *et al.* 2006). This approach is criticised in literature (see Fornell, 1983; Cliff, 1983; MacCallum, 1986). Cliff argues that 'once one starts adjusting a model in the light of the data, the model loses its status as a hypothesis' (p124). However, other authors (Huba *et al*., 1981; Tanka & Huba, 1984; Byrne *et l.*, 1989) argue that if the researcher is fully cognisant of the exploratory nature of his analyses, the process can be substantially meaningful. Besides, Byrne *et l.* (1989) suggest that the process should be thought of as a sensitivity analysis whereby practical, as well as statistical, significances are considered. They add that

> If the estimates of major parameters undergo no appreciable change when minor parameters are added to the model, this is an indication that the initially hypothesised model is empirically robust; the more fitted model therefore represents a minor improvement to an already adequate model (p461).

In this study, modifications have not led to appreciable change in any of the estimated parameters. In other words, all the estimated parameters that were insignificant in initial model remain insignificant in the modified model. Therefore, this post hoc process is used in this study to improve measurement and structural model fits. In this modification procedure, the researcher follows Byrne (1989). Moreover, only MIs > 5.00 were relaxed iteratively as suggested in Hair *et al.* (2006).

6.6.4.3 Basic assumptions for structural group-invariance analysis

Measurement Model Equivalent

Traditionally, the tests of hypotheses related to group invariance typically begin with scrutiny of the measurement model (Byrne, 2004). It is generally accepted that all group participants included in a study should have similar understanding of the measurement instrument before structural group-invariance analysis is conducted (Jöreskog & Sörbom, 1989; Deng *et al,* 2005; Hair *et al.,* 2006). The argument is that

> The pattern of factor loadings for each observed measure is tested for its equivalence across the groups. Once it is known which observed measures are group invariant, these parameters are constrained equal while subsequent tests of the structural parameters are conducted (Byrne, 2004, p274).

The measurement model equivalent analysis establishes factor loadings invariant across groups and affirms the data could be treated as one (Byrne, 2004).

Respective Group Baseline Model Fit for Factorial Invariance

Factorial invariance is concerned with the correspondence of factors across different groups in the same study, separate studies, or in subgroup of the same sample (Byrne *et al.,* 1989). The analysis begins with conducting a group-specific models termed *baseline models* separately for each group before combining them (Byrne, 2008). This is considered as a prerequisite to testing for factorial invariance across group.

> This baseline model represents one that best fits the data from the perspectives of both parsimony and substantive meaningfulness. Because the estimation of baseline models involves no between-group constraints, the data can be analysed separately for each group (Byrne, 2004, p274).

Notwithstanding, in testing for invariance, equality constraints are imposed on particular parameters, and thus, the data for all groups are analysed simultaneously to obtain efficient estimates (Bentler, 2004; Jöreskog & Sörbom, 1996). However, the pattern of fixed and free parameters remains consistent with the baseline model specification for each group (Byrne *et al.,* 1989). It is after stabilising a well-fitting baseline model for each group separately, that the final models are combined in the same file to form multigroup model, commonly termed the configural model (Byrne, 2008). They further indicate that the baseline models are not expected to be the same. In this study, the researcher examined the baseline model separately for each group.

Where there is misfit, exploratory analysis is often considered necessary. Accordingly, to test the hypothesis with data that do not have acceptable model fit, a cross-validation strategy is suggested instead of model modification (Cliff, 1983; Bentler, 1980; MacCallum, 1986). Cliff argues that 'once one starts adjusting a model in the light of the data, the model loses its status as a hypothesis' (p124). While other authors do not roll out this tendency, their findings suggest that where model main parameters do not significantly change, the process can be substantially meaningful (Tanka & Huba, 1984; Byrne *et al.,* 1989). Cliff (1983) suggest that under misfit condition, in lieu of collecting new data, a large sample can be divided randomly into two. The researcher then uses exploratory procedures with the first set of data to determine a well-fitting model before using the other set in testing the hypothesis. Hence, the model is not influenced by the data, and the hypotheses can be tested legitimately within a confirmatory framework (Cliff, 1983; Byrne *et al.,* 1989).

In this study, a subsample was used in running exploratory analysis (see 6.6.2.1) and the factors identified are consistent in the sample used in testing the hypotheses. Besides, each group data is cross-validated through exploratory analysis to ensure the absence of common method biases. The second option, which is model modifications was also employed to improve the model-data fitness as this has not affected the hypothesised estimated parameters.

Sample Size and Item Communalities

Although the acceptable sample size in factor analysis is debatable, Ho (2006) suggests that at least sample size of 100 or more are statistically adequate. However, the empirical analysis of MacCallum *et al.* (1999) suggests that when communalities are consistently high, 'good recovery of population factors can be achieved with samples that would traditionally be considered too small for factor analytic studies, even when *N* is well below 100' (p96). A variable communality is defined as the total amount of variance it shares with all other variables included in the analysis (Hair *et al.*, 2006).

The argument of MacCallum *et al.* (2001) is that, when communalities are high, sample factor solutions correspond closely to population solutions even when sample size is small, and the factors are weakly overdetermined. Their findings suggest that when communalities are consistently high (probably all greater than 0.6), then the aspect of sampling that has detrimental effect on model fit and precision of parameter estimates receives a low weight; and this greatly reduces the impact of sample size and other aspect of design. On the other hand, when communalities are low, their findings suggest that the sample size should be high. Moreover, in testing for factorial invariance across groups, Meade (2005) argues that the data properties, such as items communalities and factor over-determination, not just the size only, must be considered.

Therefore, communality of items in respective groups were computed before conducting CFA and SEM analysis (see Chapter 7).

6.7 Ethical Issues in the Study

Studies undertaken by social researchers sometimes yield negative impacts on the study participants (Kumar, 2005). It is the researcher's prerogative to ensure that such impacts are minimised and that the participants are not harmed by participating in the research. There are several ethical codes and principles needed to handle these issues in social and management science research. These are summarised in Easterby-Smith *et al.* (2008, p134) as:

- Ensuring that no harm comes to participants;
- Respecting the dignity of the participants;
- Ensuring a fully informed consent of the research participants;
- Protecting the privacy of research subjects;
- Ensuring the confidentiality of research data;
- Protecting the anonymity of individuals and organisations;
- Avoiding deception about the nature and aims of the research;

- Declaration of affiliations, funding sources, and conflict of interest;
- Honesty and transparency in communicating about the research;
- Avoidance of misleading, or false reporting of research findings.

To ensure compliance with these ethical codes the following steps were taken by the researcher.

First, access to the respondents were sought through letters (see Appendix 1A) and telephone calls.

Second, participants were not compelled to participate in the research; rather, their informed consents were sought and obtained using of consent forms (see Appendix 1B) as suggested Denscombe (2010).

Third, those who volunteered to participate in the study were assured of the confidentiality of the information they will supply. To achieve this, the participants' names were not required.

Fourth, data obtained were kept secured. The data were stored in the university's personal computer assigned to the researcher and researcher's personal laptop secured by passwords.

Fifth, the aim of the research and the researcher's affiliation were clearly statement on the data collection instrument.

Finally, the researcher has ensured that no mis-leading information is included in the study report.

6.8 Chapter Summary

This chapter sets the ground for the next chapter as discussed under research method adopted in this thesis. The justification for the use of a "form" of post-positive stance as well as quantitative method was clearly established. The research design and sample selection criteria were also clarified. The use of survey data from groups of environmental stakeholders in Niger Delta region was carefully discussed. The analytical procures were carefully explained in detail given the complexities involved in SEM and MGI analyses. These procedures are followed in data analysis in the subsequent chapter.

CHAPTER 7

ANALYSIS OF CES FACTORS AND THEIR RELATIONSHIPS

7.1 Introduction

The previous chapter discussed the research strategy employed in this study and the nature of data collected. As mentioned earlier, the main aim of this study was to explore the perceptions of the stakeholders on whether environmental accountability procedure could boost CSR contribution to ES in developing countries. The chapter is divided into 8 sections. After the introduction, the remaining sections are as follows:

- Demographic data of all groups of respondents beginning with OMNCs through to EXPTs group are presented in Section 7.2.
- In Section 7.3 the results of the data analysed with the objective of identifying, assessing and refining the factors that could influence corporate ES policy and practice in O&G industry in Nigeria are presented. The results are used in answering research question 1.
- Section 7.4 presents group specific results of the underlying dimensions in 31 ES statements.
- In section 7.5 measurement model invariance across groups of stakeholders is analysed and presented.
- The structural model invariance across groups is analysed in Section 7.6. The results are used in testing hypothesis 1 and answering research question 2.
- Section 7.7 presents group-specific analysis of determinants of CSR contribution to ES and test of hypotheses 2 to 12. The results provide answers to research question 2 to 5.
- The chapter summary is presented in the last section.

7.2 Analysis of Respondents' Demographic Data

The demographic data were analysed on group basis. The rationale for this is that some groups such as academics have participants with elevated level of educational qualification than local communities. Analysing them together would have distorted the true picture of the study participants.

7.2.1 Respondents from Oil Companies

Table 7.1 discloses the demographic details of respondents from OMNCs. In terms of gender, 24 were male and 17 were female. The percentage distribution as portrayed in Figure 7.1 shows that 59% of participants were male while 41% were female. Therefore, the gender analysis reveals that more male than female employees of oil companies participated in the study.

Table 7.1: Demographic Data of OMNCs' Respondents

	Frequency
GENDER	
Male	24
Female	17
Total	**41**
AGE (in years)	
18 – 30	5
31 – 40	18
41 – 50	15
Above 50	3
Total	**41**
HIGHEST EDUCATIONAL QUALIFICATION	
OND/NCE	7
BSC/HND	28
MSC/MBA	4
PHD	0
Others	2
Total	**41**
YOUR EMPLOYER	
Shell	13
Total	9
Exxon/Mobil	11
AGIP	8
Total	**41**

Figure 7.1: Percentage Distribution of Gender among OMNCs' Respondents

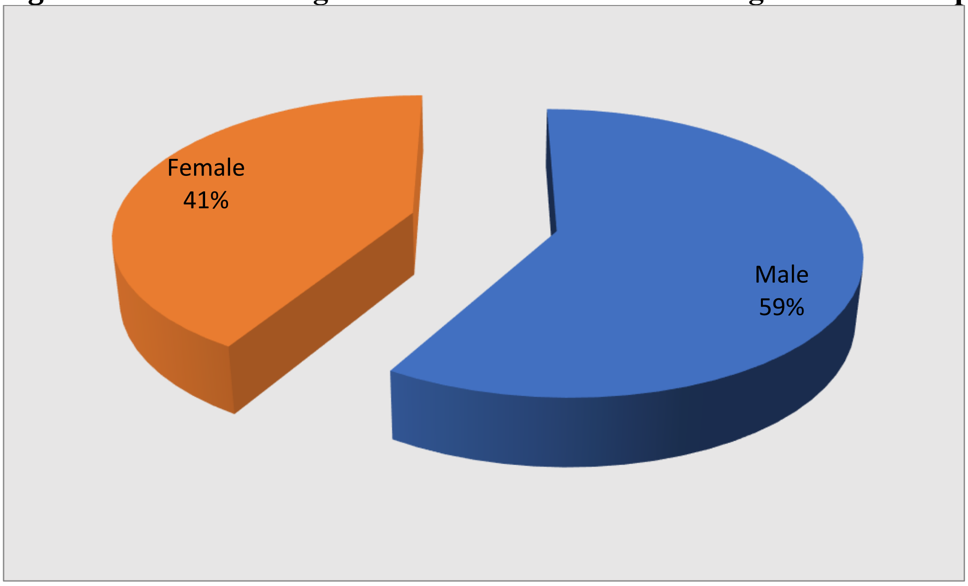


Table 7.1 also reveals the age categories of OMNCs' respondents. Those in age category of 18 – 30 years were 5 (12%) of 41 participants from OMNCs group (Figure 7.2), while 31 – 40 years were 18 (44%). In age bracket of 41 – 50 years there were 15 (37%) respondents; and there were only 3 (7%) participants with age above 50. The age distribution demonstrates that most of the employees sampled fell into age category of 31 to 40 years.

Figure 7.2: Percentage Distribution of Age among OMNCs' Respondents

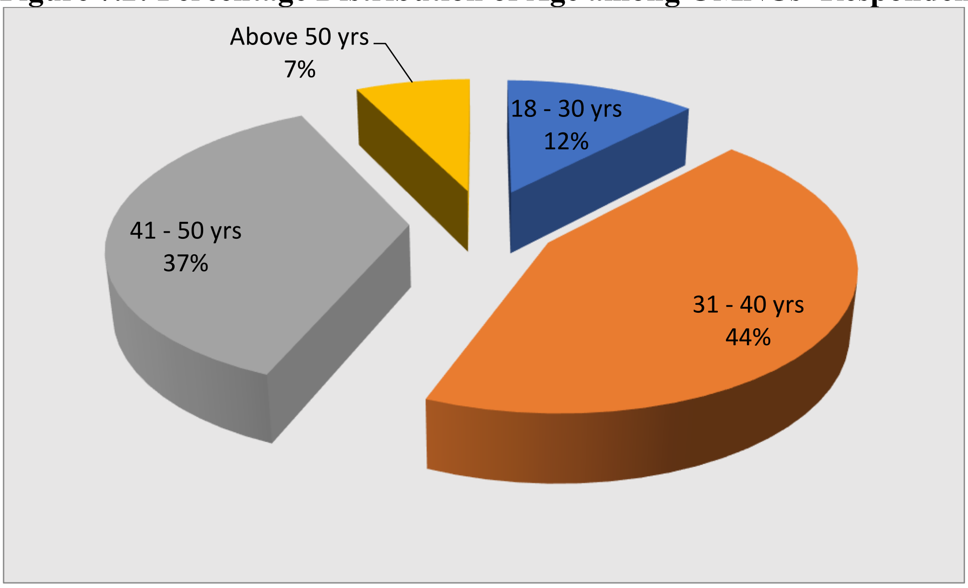
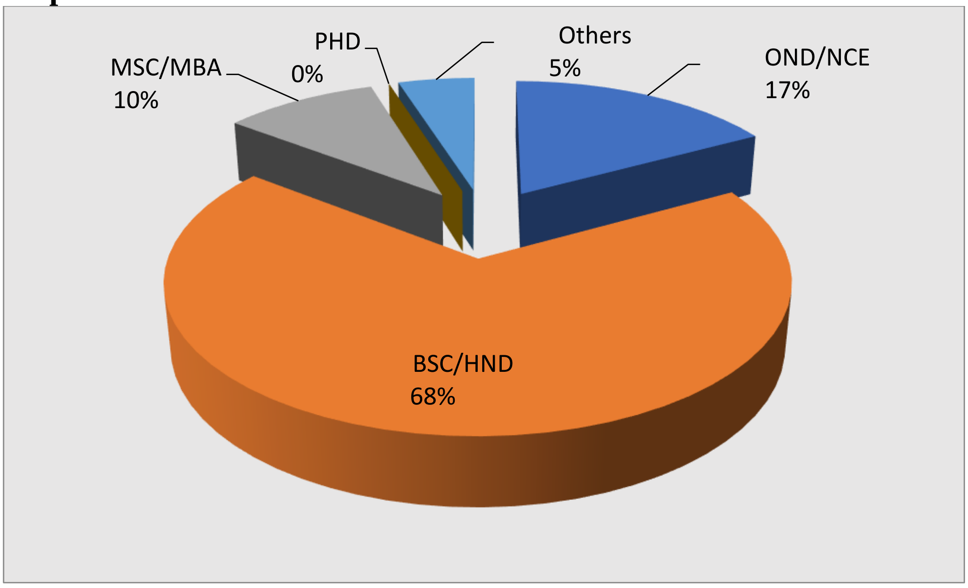


Table 7.1 and Figure 7.3 present the highest educational qualification of the study participants from OMNCs' group. Table 7.1 reveals that 7 (i.e. 17% (Figure 7.3)) of the respondents held Ordinary National Diploma (OND) and/or National Certificate of Education (NCE); while 28 (68%) had BSC or HND. Those with MSC and/or MBA were only 4 (10%) and there was no PhD holder. Only 2 (5%) of the respondents entered others as qualification and specified as

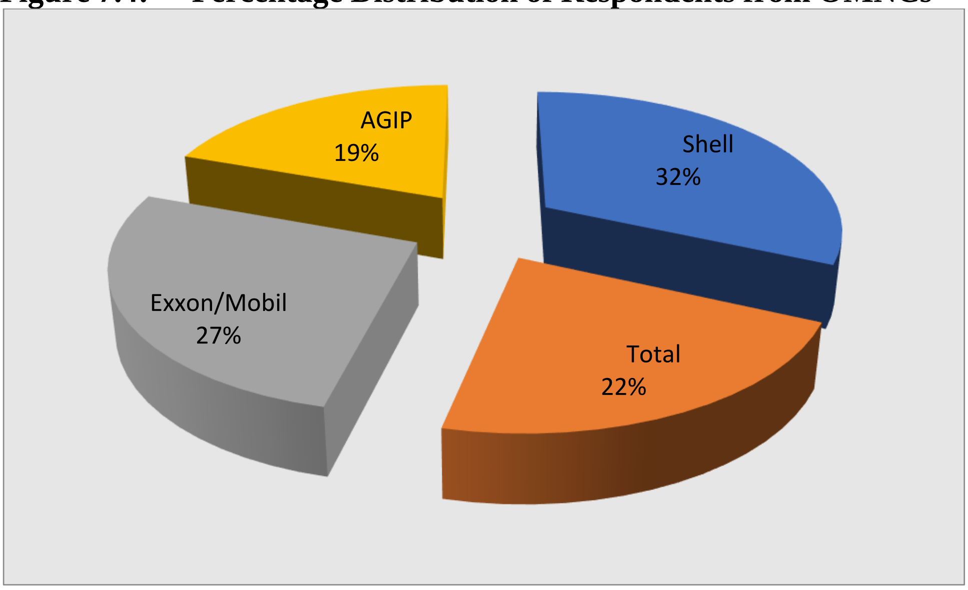
professional. The highest number of participants held a degree or higher diploma. Of course, the researcher expected a high number of graduates given the nature of business organisation.

Figure 7.3: Percentage Distribution of Educational Qualification among OMNCs' Respondents



In terms of the oil companies that participated in the study, 13 (32%) were from Shell, while 9 (22%) were from Total (Table 7.1 and Figure 7.4). 11 (27%) respondents were from Exxon/Mobil while 8 (19%) came from AGIP. These data represent the actual data integrated into the analyses after cleaning invalid ones. From the percentage of distribution, it is evidence that more participants come from Shell, followed sequentially by Exxon/Mobil, Total and AGIP.

Figure 7.4: Percentage Distribution of Respondents from OMNCs



7.2.2 Respondents from Host Communities and NGOs

Table 7.2 and 7.3 present the demographic data of respondents from the HCs and NGOs respectively. Although the data of these two sets of participants are merged into one group in the main analysis for reason given in previous chapter, their demographic data are analysed separately to explicate the characteristics of participants.

Table 7.2: Demographic Data of HCs' Respondents

	Frequency
GENDER	
Male	65
Female	36
Total	**101**
AGE (in years)	
18 – 30	26
31 – 40	31
41 – 50	25
Above 50	19
Total	**101**
HIGHEST EDUCATIONAL QUALIFICATION	
FSLC	12
SSCE/GCE	34
OND/NCE	21
BSC/HND	24
MSC/MBA	7
PHD	1
Others	2
Total	**101**
STATE OF ORIGIN	
Delta	25
Bayelsa	15
Rivers	24
Akwa Ibom	31
Others	6
Total	**101**

In terms of gender, 65 (64%) of the 101 participants from communities were male, while 36 (36%) were female (Table 7.2 and Figure 7.5). Their age distribution (Figure 7.6) were 18 – 30 years, 26 (26%); 31 – 40 years, 31 (30%); 41 – 50 years, 25 (25%); and above 50 years, 19 (19%). Although age brackets 31 – 40 and 41 – 50 years are higher, yet all the categories of ages are fairly represented. The youths and the elderly were given equal chance to participate in the study since the environmental pollution impacts affect them all.

Figure 7.5: Percentage Distribution of Gender among HCs' Respondents

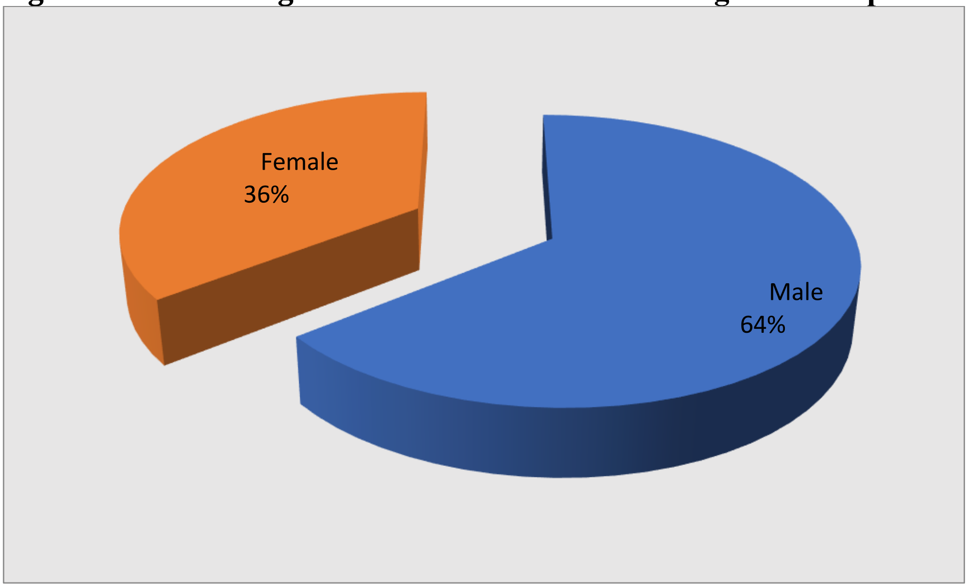
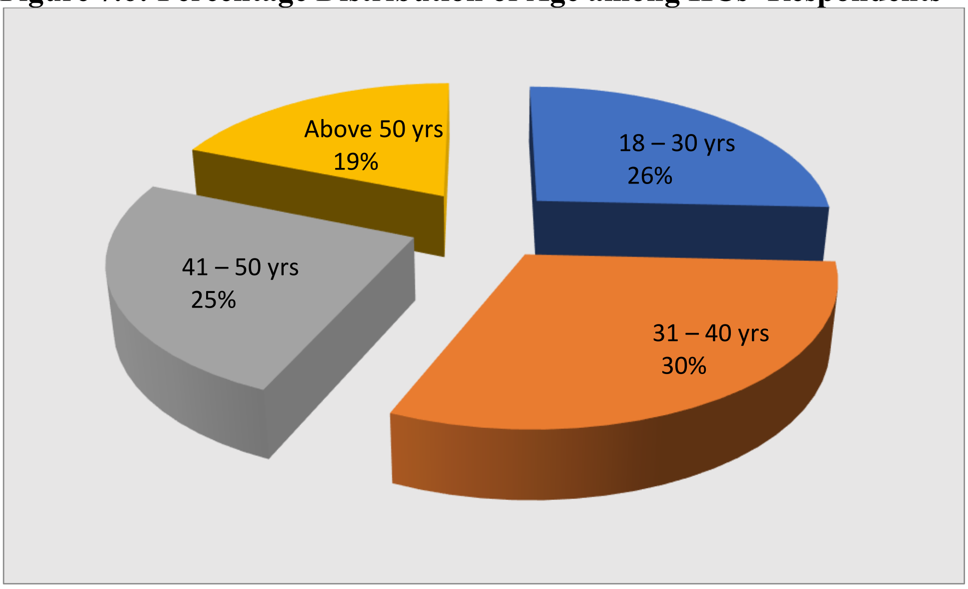
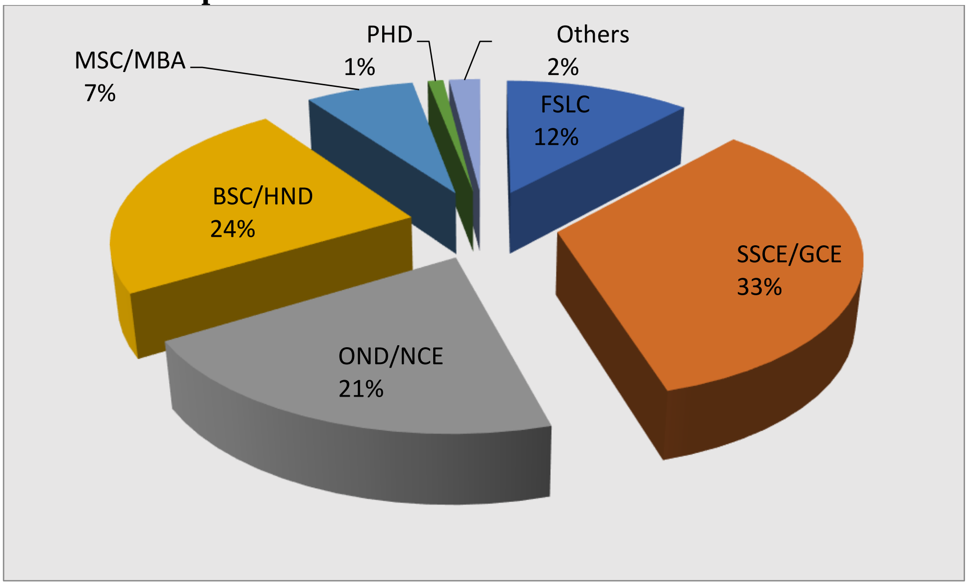


Figure 7.6: Percentage Distribution of Age among HCs' Respondents



Their educational qualification as presented in Table 7.2 and Figure 7.7 reveals that majority of the respondents, 34 (33%), got Secondary School Certificate of Education (SSCE) or General Certificate of Education (GCE) as the highest qualification. Only 7 (7%) had either MSC or MBA, while 1 respondent got PhD. Even though their nature of employment was not an issue of interest, during data collection it was realized that among the HCs' participants were the civil servants such as local government council's workers, teachers in primary and secondary schools.

Figure 7.7: Percentage Distribution of Educational Qualification among HCs' Respondents



The percentage distribution of the state of origin of the respondents from HCs is as represented in Figure 7.8. Table 7.2 and Figure 7.8 disclose that 25 (25%) of the respondents are from Delta State, while 15 (15%) come from Bayelsa State. The participants from Rivers State were 24 (24%), and those from Akwa Ibom State were 31 (30%). Among the HCs' participants were 6 (6%) respondents from States outside Niger delta region. These are people who have lived in the region for several years and they own property numbered among the households taken as samples. The result reveals that 94% of samples taken from HCs are indigenes of Niger Delta. It is apparent that they have the information required for this study.

Figure 7.8: Percentage Distribution of State of Origin of Host Communities' Respondents

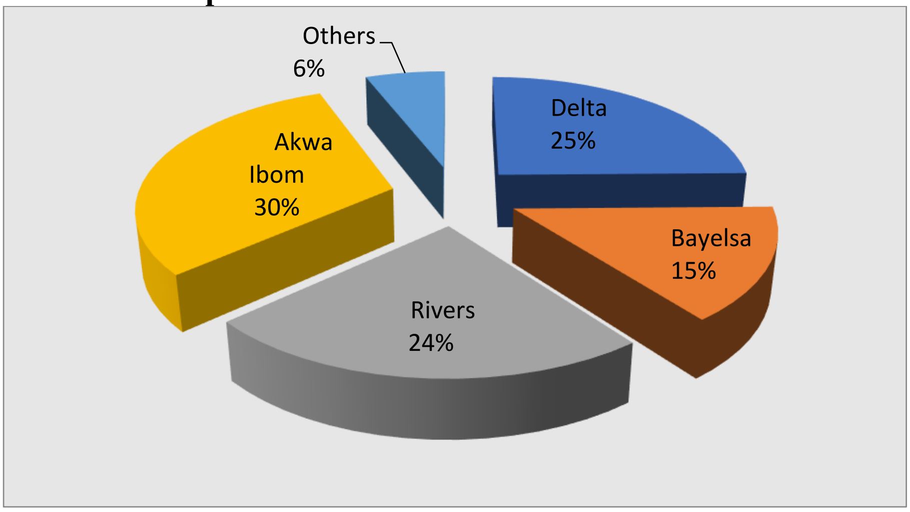


Table 7.3: Demographic Data of NGOs' Respondents

	Frequency	Percent (%)
GENDER		
Male	13	61.90
Female	8	38.10
Total	**21**	**100**
AGE (in years)		
18 – 30	3	14.29
31 – 40	5	23.81
41 – 50	9	42.86
Above 50	4	19.05
Total	**21**	**100**
HIGHEST EDUCATIONAL QUALIFICATION		
OND/NCE	2	9.52
BSC/HND	13	61.90
MSC/MBA	4	19.05
PHD	1	4.76
Others	1	4.76
Total	**21**	**100**
STATE OF ORIGIN		
Delta	6	28.57
Bayelsa	4	19.05
Rivers	5	23.81
Akwa Ibom	5	23.81
Others	1	4.76
Total	**21**	**100**

The demographic data of NGOs who are part of CNGOs' group is shown in Table 7.3. From the Table, it is observed that 13 (61.90%) of the 21 participants among NGOs were male, while 8 (38.10%) were female. Gender wise, there were more male participants than female. The age distribution indicates more participants from age category of 41 – 50 years; and 13 (61.90%) of the respondents hold either BSc or HND. Apart from 1 participant from outside Niger Delta, all others are from the region. They all walk hand in hand with the HCs in negotiating environmental issues with the oil companies.

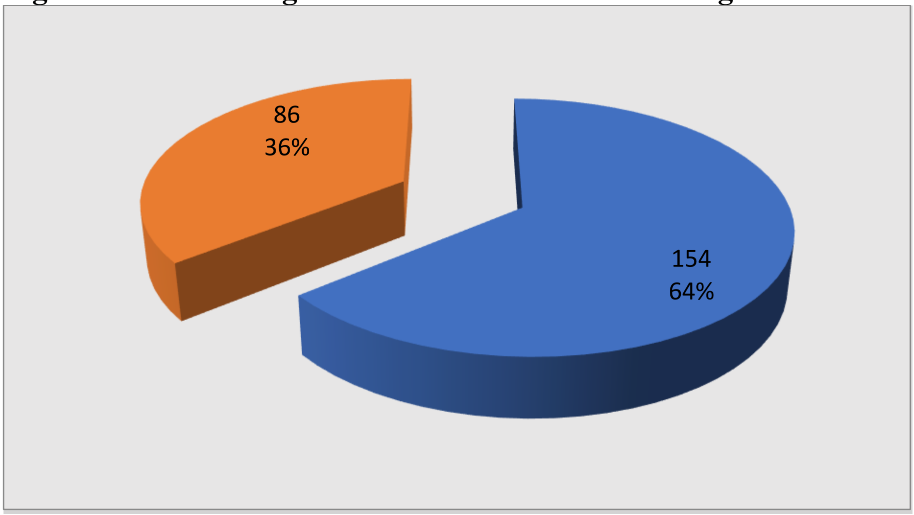
7.2.3 Respondents from Academics and SMOE

The final sets of participants were academics from Faculty of Environmental and Social Sciences in Federal Universities in Niger Delta and top employees of State Ministries of environment (SMOE) proxied in this study as government environmental stakeholders and grouped as experts (EXPTs) on environmental issues in the region. The total respondents from this group was 240, out of which 154 (64%) were male while 86 (36%) were female (Table 7.4 and Figure 7.9). The percentage distribution of gender among academics reveals more male respondents than female. The researcher expected this status because most of the institutions in Nigeria have more male than female employees.

Table 7.4: Demographic Data of Respondents from Academic Institutions

	Frequency
GENDER	
Male	154
Female	86
Total	**240**
AGE (in years)	
18 – 30	8
31 – 40	79
41 – 50	107
Above 50	46
Total	**240**
HIGHEST EDUCATIONAL QUALIFICATION	
BSC/HND	12
MSC/MBA	98
PHD	130
Others	0
Total	**240**
YOUR ORGANISATION (UNIVERSITY)	
UNIBEN	59
UNICAL	57
DELSU	31
NDU	16
UNIPORT	38
UNIUYO	39
Total	240
YEARS OF SERVICE IN THIS ORGANISATION	
1 – 5 yrs	12
6 – 10 yrs	45
11 – 15 yrs	62
16 – 20 yrs	85
Above 20 yrs	36
Total	**240**
YOUR STATE OF ORIGIN	
Edo	44
Cross River	32
Delta	28
Bayelsa	13
Rivers	29
Akwa Ibom	48
Others	46
Total	**240**

Figure 7.9: Percentage Distribution of Gender among Academics' Respondents



For age distribution, only 8 (3%) of the respondents from academics were in age category of 18 – 30 years (Table 7.4 and Figure 7.10). Those in age bracket of 31 – 40 years were 79 (33%), 41 – 50 years were 107 (45%), and above 50 years were 46 (19%). The researcher expected a higher number of respondents from those who are above 50 years; but it seems prospective respondents from this age bracket did not return the questionnaire.

Figure 7.10: Percentage Distribution of Age among Academics' Respondents

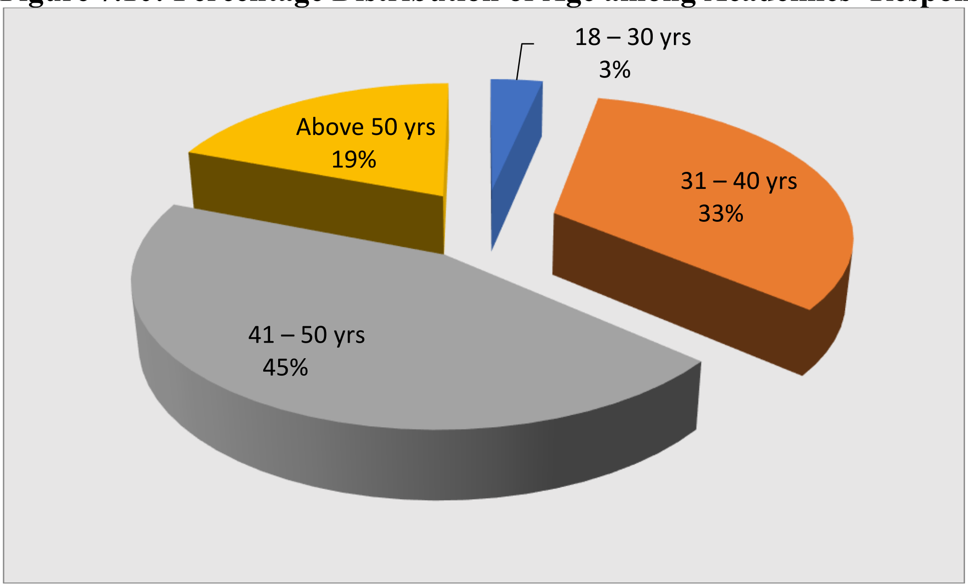


Figure 7.11: Percentage Distribution of Educational Qualification among Academics' Respondents

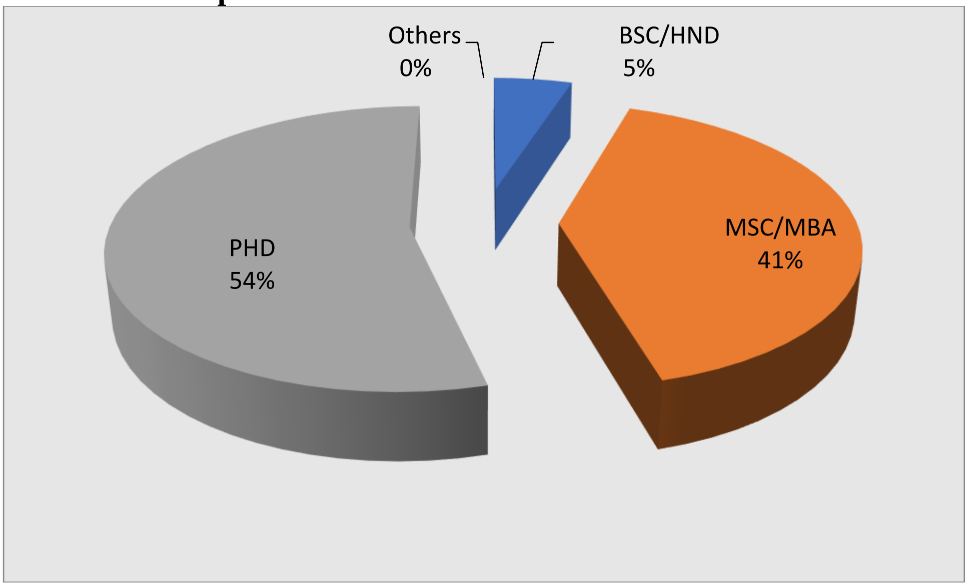
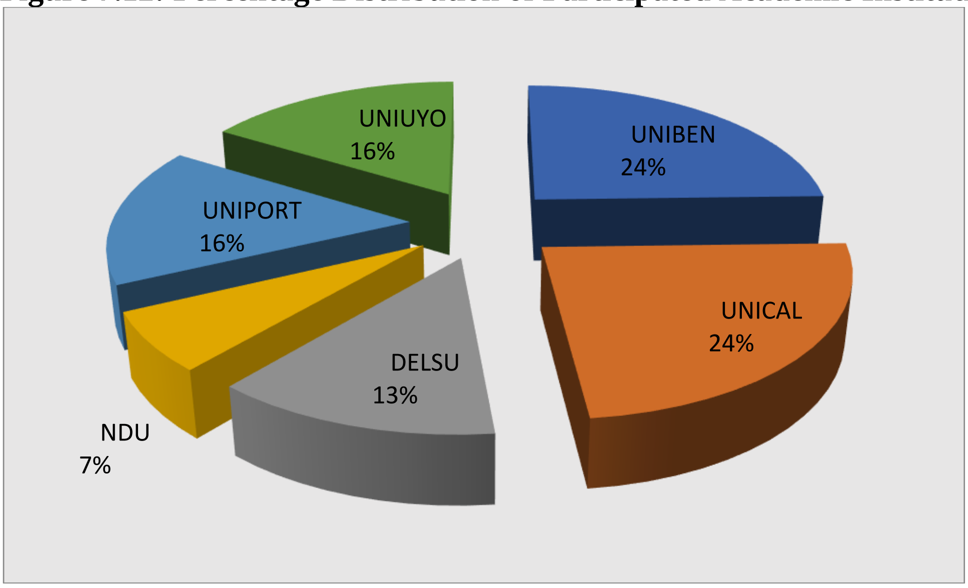


Table 7.4 and Figure 7.11 display the highest educational qualification of respondents from academics. Those with BSc were only 12 (5%) of 240 respondents, and holders of MSc/MBA were 98 (41%). In UNIUYO, where the researcher is an employee on study leave, many of the lecturers holding MSc/MBA degrees are part time PhD students in the same institution. This is commonly observed among academics in Nigeria. 130 (54%) of the respondents had PhD, and there was no additional qualification.

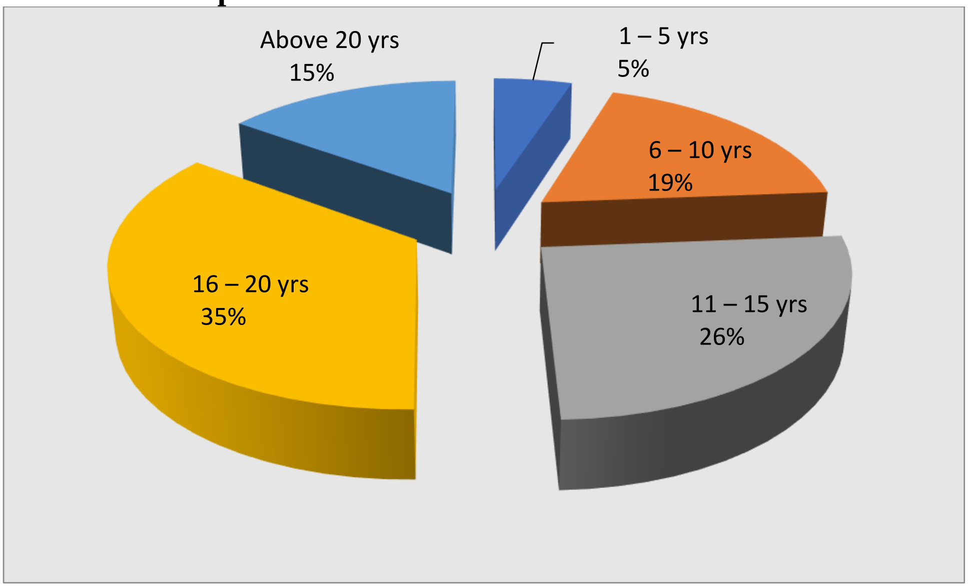
Figure 7.12: Percentage Distribution of Participated Academic Institutions



The percentage distribution of participants from the six universities indicates that 59 (24%) of the respondents were from UNIBEN, while 57 (24%) were from UNICAL (Table 7.4 and

Figure 7.12). Respondents from DELSU were 31 (13%), NDU 16 (7%), UNIPORT 38 (16%) and UNIUYO 39 (16%). Total data of 116 from respondents from UNIBEN (59) and UNICAL (57) were exclusively used in identifying major factors that could influence CES policy and practice in Nigeria. The remaining samples from other academic institutions were used along with those from SMOE in examining the structural relationships of such factors.

Figure 7.13: Percentage Distribution of Years of Service among Academics' Respondents



In terms of years the respondents have spent in these institutions located in Niger Delta, only 12 (5%) have spent less than 6 years in their respective institutions. The result reveals that 95% of the participants have been in Niger Delta for 6 years and above (Table 7.4 and Figure 7.13). This gives impression that the study participants got required knowledge about the environmental issues in the region.

Moreover, Figure 7.14 presents the percentage distribution of state origin of the academics. The result reveals that 81% of the respondents are from Niger Delta while only 46 (19%) of 240 of the academics are non-indigenes of the region (Table 7.4 and Figure 7.14). This percentage is relatively small when compared with indigenes. However, years of service of these participants indicates that they have spent many years in the region even though they are not from Niger Delta.

Figure 7.14: Percentage Distribution of State of Origin of Academics' Respondents

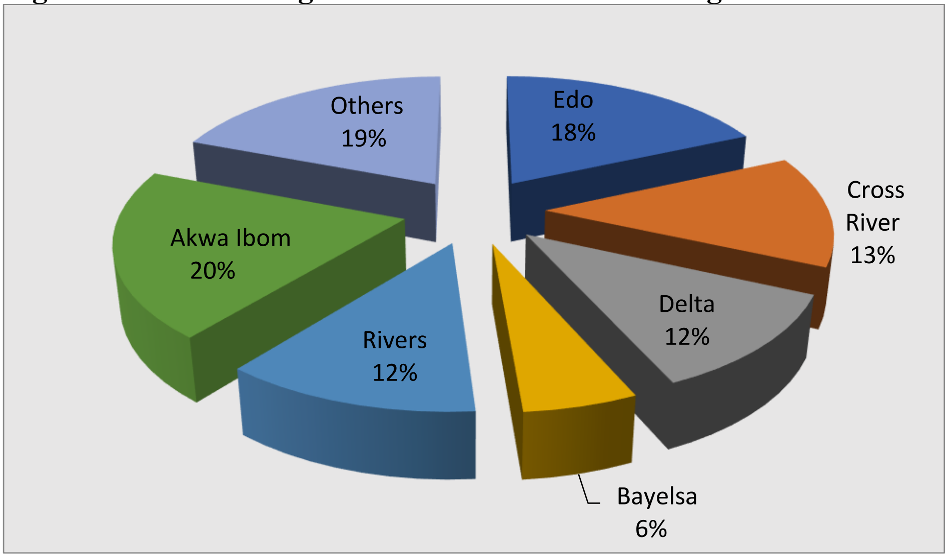


Table 7.5 presents the demographic data of respondents from SMOE. The gender distribution among them indicates that 10 (66.67%) of respondents were male while only 5(33.33%) were female. Most of the participants were above 50 years and most of them had BSc or HND. All the participants were from Niger Delta region.

Table 7.5: Demographic Data of SMOE's Respondents

	Frequency	Percent (%)
GENDER		
Male	10	66.67
Female	5	33.33
Total	**15**	**100**
AGE (in years)		
18 – 30	0	0
31 – 40	1	6.67
41 – 50	6	40.00
Above 50	8	53.33
Total	**15**	**100**
HIGHEST EDUCATIONAL QUALIFICATION		
OND/NCE	5	33.33
BSC/HND	6	40.00
MSC/MBA	4	26.67
PHD	0	0
Others	0	0
Total	**15**	**100**
STATE OF ORIGIN		
Delta	3	20.00
Bayelsa	3	20.00
Rivers	5	33.33
Akwa Ibom	4	26.67
Others	0	0
Total	**15**	**100**

The demographic data analysis demonstrates that samples were drawn from groups of people in the region. The main aim was to integrate the opinion of oil companies, the host communities who bear the brunt of environmental pollution, and other groups who may not have similar interests as former groups. This approach has significantly reduced the personal interest biases which would have come from either oil companies or communities.

7.3 Data Analysis of Environmental Sustainability Factors

7.3.1 Checking for Normality Distribution of Data Used in Factor Identification

Figure 7.15 and 7.16 present the mean distribution of data used in extracting the underlying factors of CES in O&G industry in Nigeria. The figures portray a multivariate non-normal distribution of data. Normality and linearity, sufficient significant correlations of data matrix, and at least sample size of 100 or more are statistical assumptions in factor analysis (Ho, 2006). All these assumptions are rarely met especially when ordinal scaled data are employed in multivariate analysis (Hau & Marsh, 2004). Therefore, to justify application of factor analysis there should be high item communalities and sufficient inter-correlation of variables. Ho (2006) suggests that there should be at least 33% of significant inter-correlations of variables before application of factor analysis. The correlation Table (Appendix 2D) shows that number of significant inter-correlations of the variables is above 65%. Besides, the sample size of 116 is greater than 100 suggested in Ho (2006). Therefore, the data are suitable for factor analysis techniques employed in this study.

Figure 7.15: Bar Chart of Mean Distribution of 30 Variables

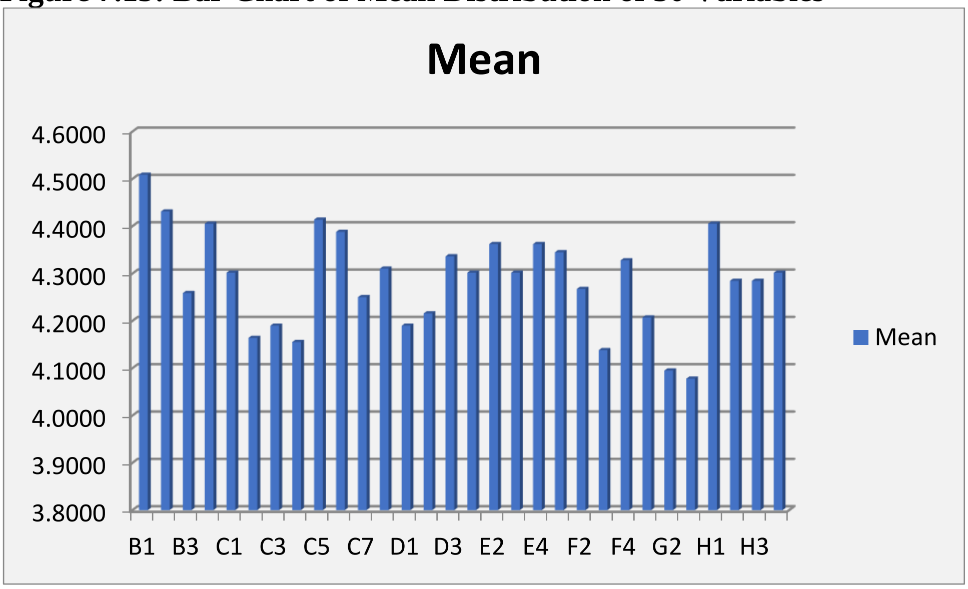
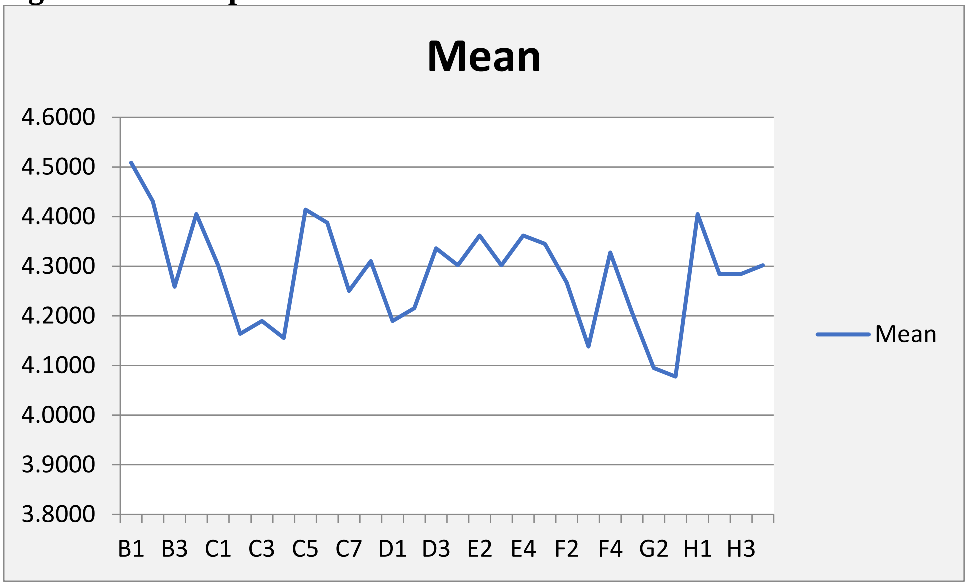


Figure 7.16: Graphical Presentation of Mean Distribution of 30 Variables



7.3.2 Factors Identification and Assessment

EFA technique was used in identifying, assessing, and refining factors that could be considered when CSR is geared towards contribution to environmental sustainability. The correlation matrix in Appendix 2D reveals a high correlation of the thirty (30) variables among themselves. An examination of this matrix discloses that more than 65% of the variables inter-correlate among themselves. These correlations are statistically significant at 0.05 confidence level. None of the items has insignificant correlation coefficients with other variables, which would have warranted being excluded as suggested in Blaikie (2003). This high inter-correlation of the variables indicates that the measurable items are consistent, and the factor model hypothesised appears appropriate.

Table 7.6: Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.904	.905	30

Besides, the Cronbach's alpha (α), which captures the estimated average of all the correlation coefficients of the measured items within the test, is equally very high (Table 7.6). Generally, the alpha (α) of 0.6 and above indicates satisfactory of items reliability (Ho, 2006). Hence, the Cronbach's α of 0.904 indicates satisfactory internal reliability and consistency of the measured variables.

The correlation matrix adequacy is further tested with Bartlett's test of sphericity in Table 7.7. It confirms that the correlation matrix has at least significant correlations of some variables among themselves. 'Bartlett's test of sphericity tests the hypothesis that the correlation matrix is an identity matrix; that is, all the diagonal terms are 1 and all off-diagonal terms are 0' (Ho, 2006; p218). The criterion as Ho pointed out, is to reject the hypothesis that the variables are independent if the test value is large and the level of significance is 0.05 or less. The test value is 2810.660 at <0.01 level of significance and 435 degree of freedom (Table 7.7) are very high. This further confirms the underlying dimensions extracted from the sample. Thus, the correlation matrix is not an identity matrix. The hypothesis that it is an identity matrix is therefore rejected. Moreover, Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy of 0.798 is higher than 0.6, which Udofia (2011) considers as the least for a reasonable factor analysis.

Table 7.7: KMO and Barlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.798
Bartlett's Test of Sphericity	Approx. Chi-Square	2810.660
	df	435
	Sig.	.000

In common factors analysis, the variable's communality is the estimate of its shared or common variance among the variables as represented by derived factors (Hair *et al*, 2006). As suggested in Hair *et al* (2006) variable's communality should be 0.50 and above to be accepted. Hence, variable apepr5 with communality of 0.362 was dropped (see Appendix 2B); this reduced the number of variables to 30. The poor communality shows a high standard deviation in the response. This demonstrates that respondents in this group are holding different opinions about this item. This disparity is reflected in the communality of the item.

The third column in Table 7.8 shows the communality of 30 variables included in the study. It reveals the common variance which each variable share with others in the analysis (Hair *et al*, 2006). The result shows high correlation of the variables with other variables. An examination of the communality column shows that the least common variance is 0.567 of variable teii2. In other words, the result indicates that each variable has a shared or common variance that is greater 0.50. This supports inclusion of these 30 variables in factor solution.

Table 7.8: Factors Extracted, their communalities and loadings

Factors	Indicators	Communalities	Factor Loadings	Eigen values	% of variance explained

1. ***Community reaction*** to environmental condition	Oil facilities vandalization (cnab1)	.832	.852	8.14	27.15
	Access blocking (cnab2)	.813	.869		
	Struggle for resource control (cnab3)	.825	.865		
	Demonstration of grievances (cnab4)	.765	.840		
2. ***Alignment of CSR*** initiatives with business impacts	CSR alignment with impacts preferred (csria1)	.934	.934	3.63	12.09
	Alignment addresses pollution impacts directly (csria2)	.782	.808		
	Alignment deters future pollution (csria3)	.798	.863		
	Alignment guides impacts mitigation evaluation (csria4)	.687	.776		
3. Corporate ***commitment*** to environmental issues	Environmental proactivity (cces1)	.799	.847	3.43	11.43
	Beyond requirements performance (cces2)	.785	.835		
	Compensating for undue pollution (cces3)	.716	.776		
	Timely response to pollution incidence (cces4)	.688	.778		
4. Environmental ***risks awareness***	Declined farming activities (apepr1)	.788	.852	2.41	8.02
	Polluted atmospheric air apepr2)	.600	.696		
	Polluted drinkable water (apepr3)	.676	.790		
	Degraded ecosystem (apepr4)	.744	.794		
5. ***Transparency*** on business environmental impacts	Importance of environmental impacts transparency (teii1)	.857	.877	2.19	7.22
	EIA as basis for informed consent (teii2)	.567	.696		
	Regards to informed consent expected (teii3)	.648	.773		
	Stakeholder pressure for transparency (teii4)	.756	.820		
6. ***Accountability*** approach to environmental management	Stakeholder engagement in standards setting (eam1)	.800	.795	1.74	5.79
	Environmental auditing (eam2)	.596	.601		
	Environmental monitoring (eam3)	.671	.728		
	Sanctions deter future pollution (eam4)	.574	.678		
7. ***Non-compliance*** with sustainability requirements	Visibility of non-compliance (npnid1)	.783	.857	1.57	5.22
	Grievances for negligence (npnid2)	.770	.855		
	Lack of accountability (npnid3)	.822	.852		
8. ***Intentional*** improvement as response to perceived external threats	Beliefs about consequences of unacceptable performance (cbi1)	.709	.720	1.20	4.01
	Effectiveness of external pressure (cbi2)	.682	.757		
	Corporate perception of world-view (cbi3)	.808	.868		
Total					**80.92**

Sample size: N = 116, Factors extracted = 8, and items included = 30.

7.3.2.1 Eight-factor solution

The results of exploratory factor analysis of the manifest variables are presented in Table 8. The Table presents an eight-factor solution, the underlying indicators of these factors and their respective weights, the eigenvalues and the total explained variance related to CES factors. In all cases, the factor loadings are > 0.5 (confirming measurable items consistency) and < 0.95 (confirming non-existence of multicollinearity) (Bagozzi & Yi, 1988). The first factor, which is responsible for 27.15% of the variance of the model, is “Community Reaction to Environmental Condition” (see Appendix 2E for further details). The variables labelled cnab1, cnab2, cnab3, and cnab4 (Table 7.8 & 7.9) loaded significantly into this factor. These set of variables reflect the *behaviour* of the local communities affected by environmental pollution. The Experts on environmental issues in Niger Delta consider this as a major factor.

The second, which is "Alignment of CSR Initiatives with Business Impacts", has eigenvalue of 3.63 and is responsible for 12.09% variance of the model. The variables numbered csria1, csria2, csria3, and csria4 loaded into this construct. The underlying indicators suggest that experts on CSR and environmental issues in Nigeria believe that alignment of CSR programmes with pollution impact is a good practice.

The third is "Corporate Commitment to Environmental Issues"; and it causes 11.43% variance in the model. The variables: "environmental proactivity", "beyond requirements performance", "compensating for undue pollution" loaded significantly into this latent construct (Table 7.8).

The fourth and fifth factors, "Environmental Risk Awareness" and "Transparency on Business Environmental Impacts", are responsible for 8.02% and 7.22% of variance in the model, respectively. The sixth factor, which accounts for 5.79% of variance, is "Accountability Approach to Environmental Management". The weights of the respective indicators are significant at 5% level.

The seventh and eight factors are "Non-Compliance with Sustainability Requirements" and "Intentional Response to Perceived External Threats", which account for 5.22% and 4.01% of variance in the model, respectively. The model represents 80.92% of the total variance of the data, this exceed the minimum of 60% recommended in Hair *et al.* (2006). Thus, a model with eight-factor solution apparently represents the data adequately.

Figure 7.17 presents the scree plot of the eigenvalues of the whole 30 items. The graph shows the relationship of the eigenvalues on *Y axis* against each factor on *X*. It shows the downward gradient change in the magnitude of the eigenvalues as related to factors. It is a common method used in extracting optimum number of factors. Based on eigenvalue of ≥ 1, it further illustrates that eight-factor model captures the data set adequately.

Figure 7.17: Scree Plot of Eigenvalues for 30 Items

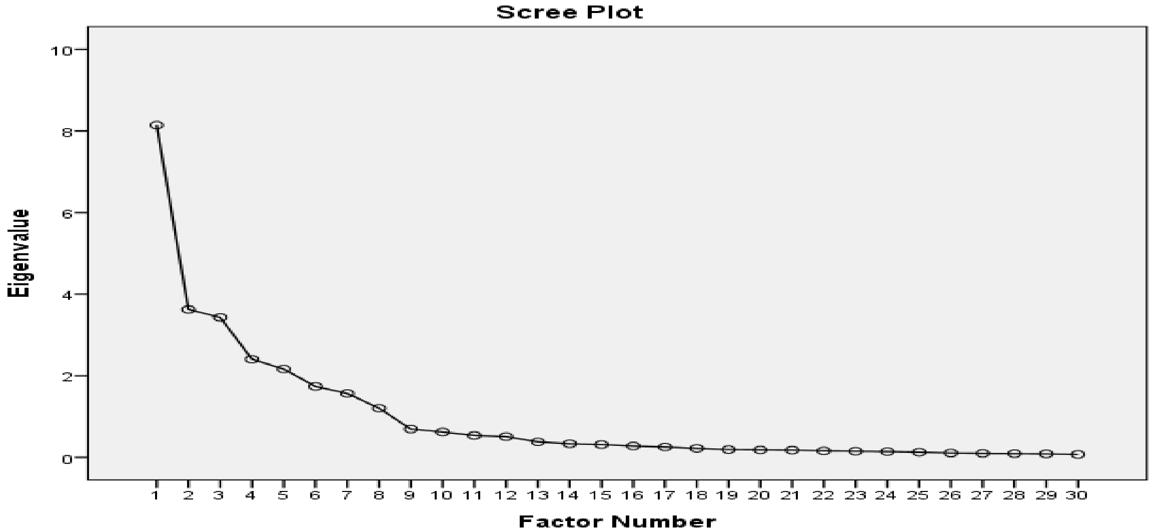


Table 7.9: Rotated Factor Matrix[a] for 30 variables

	Factor							
	1	2	3	4	5	6	7	8
apepr1	.112	.085	.094	**.852**	.158	.055	.050	.049
apepr2	.187	.136	.019	**.696**	.152	.162	.099	.040
apepr3	.122	.117	.054	**.790**	.135	-.037	-.007	.019
apepr4	.125	.135	-.030	**.794**	.209	.174	.056	.047
cnab1	**.852**	.237	.130	.113	.013	.086	.047	.103
cnab2	**.869**	.145	.021	.164	.004	.064	.013	.070
cnab3	**.865**	.150	.139	.125	.020	.083	.076	.080
cnab4	**.840**	.117	-.007	.147	.015	.120	.075	.061
teii1	-.034	.096	.102	.161	**.877**	-.002	.160	.125
teii2	-.002	.037	-.009	.134	**.696**	.077	.237	.017
teii3	.094	.001	.115	.155	**.773**	-.007	-.006	.057
teii4	-.021	.053	.005	.178	**.820**	.158	.140	.074
npnid1	-.009	.000	-.019	.111	.163	.069	**.857**	.061
npnid2	.108	-.011	.048	.019	.142	.054	**.855**	.033
npnid3	.088	.033	.113	.031	.164	.218	**.852**	.019
eam1	.081	-.020	.294	.109	.029	**.795**	.205	.140
eam2	.196	.226	.256	.095	.128	**.601**	.221	.074
eam3	.047	-.067	.282	.196	.048	**.728**	.019	.116
eam4	.109	.023	.269	-.002	.069	**.678**	.048	.151
csria1	.185	**.934**	.063	.090	.066	.030	.001	.078
csria2	.156	**.808**	.078	.218	.114	.031	-.006	.192
csria3	.111	**.863**	.163	.058	-.027	.071	.075	.032
csria4	.193	**.776**	.032	.137	.049	-.042	-.046	.150
cbi1	.174	.128	.270	.034	.100	.244	-.005	**.720**
cbi2	.118	.101	.182	.062	.167	.137	.039	**.757**
cbi3	.030	.188	.055	.047	.013	.075	.083	**.868**
cces1	.018	.089	**.847**	.047	.042	.199	.052	.162
cces2	.078	.129	**.835**	.033	.097	.203	.029	.111
cces3	.114	.116	**.776**	.069	.062	.256	.083	.080
cces4	.052	.014	**.778**	-.003	.019	.258	-.009	.113

Extraction Method: Principal Axis Factoring. Rotation Method: Varimax with Kaiser Normalization.
a. Rotation converged in 7 iterations. N = 116

Again, the rotated factor matrix (Table 7.9) presents the eight factors after varimax (orthogonal) rotation. An examination of the factor loadings reveals that four variables significantly loaded into factor 1 to 6; while three loaded into factor 7 and 8. Moreover, none of the variables loaded significantly across two or more factors. This gives impression that the variables measured what they were meant to measure (Blaikie, 2003; Ho, 2006).

7.4 Examination of the Underlying Dimensions in 31 ES Statements across Groups

7.4.1 Descriptive Analysis of Respective Group Responses

The descriptive statistical technique was employed in preparing the data for multivariate analysis of structural relationships of ES factors. The responses to statements were assessed in terms of frequencies (see Appendix 3A to D). In OMNCs group the highest frequency is on issue of environmental proactivity as indicator of commitment. That is 27 out of 41 (65.9%) strongly support the statement. In CNGOs group, 96 out of 122 (78.7%) strongly support the statement, while 98 out of 139 (70.5%) strongly agree with the statement in the EXPTs group. This is a key commitment indicator to all groups.

The highest frequency in CNGOs group is on awareness of air pollution. That is 103 out of 122 (84.4%) indicate that they are very much aware of the effect of air pollution due to gas flare. In the EXPTs group, it is the importance of environmental impact transparency that makes the highest frequency of strong agreement, which is 100 out of 139 (i.e., 71.9%). In terms of least strong agreement, only 19.5% of OMNCs' and 35.5% of EXPTs' respondents strongly support the statement that CSR alignment with pollution could deter future pollution. In CNGOs, the least strong agreement is facility vandalization, that is, 33 out of 122, which is 27%. A closer observation of the way participants responds to the statement indicates a kind of defence and personal interest. For instance, many respondents in CNGOs group do not see oil facilities vandalization as unacceptable way of reacting to oil companies' environmental pollution.

The focus of the second aspect of descriptive analysis was on identification of the outliers among the variables which might disproportionately affect the results (Hair *et al,* 2006). Each group of responses is examined separately (Table 7.10) before analysed as total in Table 7.11. The awareness of the respondents on the role of environmental pollution on the "declined farming activities" in Niger Delta varies among the groups. The mean of this item in OMNCs group is 3.7805 (SD = 1.2944) while it is 3.9180 (SD = 1.5244) in CNGOs data. In and EXPTs group the mean is 4.3525 (SD = 1.1848). Evidently, the standard deviation of the "declined farming activities" in CNGOs group is higher compared to that of OMNCs and EXPTs. This shows a wide disparity of the understanding of the impact of oil pollution on farming activities among communities' participants.

Table 7.10: Descriptive Statistics of Oil companies, Communities/NGOs, and Experts

Item (Variable)	Oil Companies		Communities/ NGOs		Experts	
	Mean	SD	Mean	SD	Mean	SD
Declined farming activities (apepr1)	3.7805	**1.2944**	3.9180	**1.5244**	4.3525	1.1848
Polluted atmospheric air (apepr2)	4.1951	1.0774	4.6393	.9626	4.4388	.9639
Polluted drinkable water (apepr3)	4.3659	.85896	4.4836	1.0619	4.2806	1.0565
Degraded ecosystem (apepr4)	4.2195	1.0609	4.5656	.9180	4.4101	1.0272
Grief for uncleaned oil spills (apepr5)	3.5854	**1.5648**	4.0082	**1.4965**	4.2158	1.1963
Oil facilities vandalization (cnab1)	3.2195	**1.4232**	3.6148	**1.2294**	3.7122	**1.4902**
Access blocking (cnab2)	4.0488	.99878	4.1885	1.0311	4.2734	1.0481
Struggle for resource control (cnab3)	4.1220	.78087	4.2049	.9265	4.2590	1.1121
Demonstration of grievances (cnab4)	4.0000	1.1401	4.4180	.9945	4.3813	1.0590
Importance of environmental impacts transparency (teii1)	4.1707	.8917	4.3525	1.1348	4.5036	.9881
EIA as basis for informed consent (teii2)	4.1220	.95381	4.3279	1.0713	4.3885	.9287
Regards to informed consent expected (teii3)	3.5610	**1.3610**	4.0820	**1.3148**	3.9568	**1.2503**
Stakeholder pressure for transparency (teii4)	4.0488	1.0476	.3279	1.1017	4.3525	1.0062
Visibility of non-compliance (npnid1)	3.9756	1.0603	4.2869	.9998	4.2590	1.0723
Grievances for negligence (npnid2)	4.3415	.93834	4.3525	.8900	4.2734	1.0130
Lack of accountability (npnid3)	4.2683	.97530	4.4344	.8526	4.3453	1.0123
Stakeholder engagement in standards setting (eam1)	3.9024	1.1358	4.3607	.8035	4.4245	1.0070
Environmental auditing ((eam2)	4.0000	.92195	4.4754	.8253	4.3669	1.0435
Environmental monitoring (eam3)	3.8293	.91931	4.1148	.7841	4.3094	.9467
Sanctions deter future pollution (eam4)	4.0244	1.1065	4.4016	.7784	4.3957	1.0044
CSR alignment with impacts preferred (csria1)	3.8537	1.1081	4.1148	1.0057	4.4748	.8954
Alignment addresses pollution impacts directly (csria2)	3.7805	.9877	4.1066	.8509	4.4820	.8371
Alignment deters future pollution (csria3)	2.9512	**1.4654**	3.6967	**1.3292**	3.2014	**1.6249**
Alignment guides impacts mitigation evaluation (csria4)	4.0000	1.1619	4.3279	.9486	4.4460	.9022
Beliefs about consequences of unacceptable performance (cbi1)	4.2927	.95509	4.1803	.9707	4.2662	1.0326
Effectiveness of external pressure (cbi2)	3.9756	.79018	4.0082	.9916	4.2158	1.0198
Corporate perception of world-view (cbi3)	4.2195	.93574	4.0820	.9671	4.1439	1.0938
Environmental proactivity (cces1)	4.3415	1.0394	4.6311	.8450	4.4388	1.0364
Beyond requirements performance (cces2)	4.1707	.91931	4.3852	.8376	4.3309	1.0383
Compensating for undue pollution (cces3)	3.1220	**1.4865**	3.6885	**1.4493**	3.9137	**1.3103**
Timely response to pollution incidence (cces4)	4.0488	.94740	4.3115	.9007	4.3309	1.0242

Sample size: Oil Companies N = 41, Community/NGOs N= 122, Experts N = 139.
Bold figures indicate SD > 1.2

Although some conceptual studies in the region (Fagbohun, 2007; Babatunde, 2010) attribute poor harvest to the environmental pollution, many of the community members may not be well informed about the impact of oil pollution on decline in farm produce. The same trend is observed on statement, "Uncleaned oil spills grieve affected communities". The EXPTs' group SD of 1.196 is lower than that of the other two groups. This demonstrates that they are aware of the impact of oil spills on farmland and that this could grieve the farmers. The indication is that many respondents among the members of the communities and oil company workers are not aware of the relationships of these variables as does expert group. Of course, some may associate the grievances to other factors such as lack of employment, poverty, and so on.

All groups participants hold diverse opinions on "oil facilities vandalization" as a way of expressing grievances by the host communities. However, the mean deviation in CNGOs group is less than that of OMNCs and EXPTs to show that substantial number of respondents among communities consider oil production facilities vandalization as a way of expressing their grievances over environmental pollution. Disparity in responses indicates that while some may have supported such acts others do not. Similarly, diverse opinions are demonstrated on whether firms will have regards to terms and conditions upon which free, prior and informed consent of the natives was obtained. The variable, "regards to informed consent expected" yielded SD > 1.2 in all groups. The same trend is observed in the statement, "matching of CSR initiatives with undue environmental pollution can act as deterrent against further pollution". The variable "alignment deters future pollution" has SD > 1.2 in all groups. Apart from these few items, the groups participants' understanding of the other items seems to be consistent based on their means and standard deviations. The variables with SD > 1.2 give a sign of outliers, which might disproportionately affect the results if included in multivariate analysis (Hair *et al*, 2006). However, they are further analysed for confirmation.

7.4.2 Descriptive Analysis of Combined Data

Table 7.11 displays the mean and SD of variables when all the data are aggregated. Given the multivariate analytical approach adopted in this study, it becomes necessary to examine the SD in terms of aggregated data. An examination of Table 7.11 discloses six items with standards deviations > 1.2. These items are: "declined farming activities" (SD = 1.36279), "grief for uncleaned oil spills" (SD = 1.38736)," oil facilities vandalization" (SD = 1.38587), "regards to informed consent expected" (SD = 1.29829), "CSR alignment deters future pollution" (SD = 1.51208), and "compensating for undue pollution" (SD = 1.41129). All these items were problematic in OMNCs and CNGOs groups. In EXPTs group, standard deviations of "declined farming activities" and "grief for uncleaned oil spills" were found to be < 1.2. Mean variation of these items identified them as outliers in this initial analysis. However, they are further examined in internal reliability analysis of the constructs and communality extracted using factor analysis.

Table 7.11: Mean and Standard Deviation in Combined Responses

Items	Mean	SD	N
Declined farming activities (apepr1)	4.0993	1.36279*	302
Polluted atmospheric air (apepr2)	4.4868	.98737	302

Polluted drinkable water (apepr3)	4.3742	1.03545	302
Degraded ecosystem (apepr4)	4.4470	.99275	302
Grief for uncleaned oil spills (apepr5)	4.0464	1.38736*	302
Oil facilities vandalization (cnab1)	3.6060	1.38587*	302
Access blocking (cnab2)	4.2086	1.03407	302
Struggle for resource control (cnab3)	4.2185	.99763	302
Demonstration of grievances (cnab4)	4.3444	1.05053	302
Importance of environmental impacts transparency (teii1)	4.3974	1.04121	302
EIA as basis for informed consent (teii2)	4.3278	.99257	302
Regards to informed consent expected (teii3)	3.9536	1.29829*	302
Stakeholder pressure for transparency (teii4)	4.3013	1.05273	302
Visibility of non-compliance (npnid1)	4.2318	1.04353	302
Grievances for negligence (npnid2)	4.3146	.95256	302
Lack of accountability (npnid3)	4.3709	.94441	302
Stakeholder engagement in standards setting (eam1)	4.3278	.96198	302
Environmental auditing (eam2)	4.3609	.95350	302
Environmental monitoring (eam3)	4.1656	.89242	302
Sanctions deter future pollution (eam4)	4.3477	.94094	302
CSR alignment with impacts preferred (csria1)	4.2450	.99478	302
Alignment addresses pollution impacts directly (csria2)	4.2351	.89722	302
Alignment deters future pollution (csria3)	3.3675	1.51208*	302
Alignment guides impacts mitigation evaluation (csria4)	4.3377	.96715	302
Beliefs about consequences of unacceptable performance (cbi1)	4.2351	.99552	302
Effectiveness of external pressure (cbi2)	4.0993	.98328	302
Corporate perception of world-view (cbi3)	4.1291	1.02131	302
Environmental proactivity (cces1)	4.5033	.96706	302
Beyond requirements performance (cces2)	4.3311	.94515	302
Compensating for undue pollution (cces3)	3.7152	1.41129*	302
Timely response to pollution incidence (cces4)	4.2848	.96708	302

SD = Standard deviation; N = size; * = SD > 1.2. Item label in parenthesis.

7.4.3 Testing for Outliers and Common-Method Bias in Combined Data

The second step followed in preparing the combined data employed in SEM was testing for common-method bias (i.e., possibility of all the items loading into one factor). *Harman's single factor test* was conducted using EFA statistical technique (Harman, 1976). The analysis yielded eight-factor solution with initial cumulative eigenvalues of 68.85% at the first instance (Appendix 4E). The first factor accounts for only 21.38% (i.e., < 50%) of variance in the model. Therefore, single method-bias is not an issue in the aggregated data.

The Cronbach's α of 0.860 (Appendix 4B) indicates that the estimated average of all the correlation coefficients of the measured items are internally reliable and consistent. However, 6 items that yielded SD > 1.2 in descriptive analysis (Table 7.11) also yield communalities of < 0.5 (Appendix 4D). In other words, the shared or common variance of these variables are less than acceptable limit suggested in Hair *et al* (2006), which is 0.5. The results further identify these items as outliers among the variables with tendency to disproportionately influence the general structural results.

Table 7.12:Reliability Test of 25 Items Included in SEM Analysis

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.870	.870	25

Table 7.13: KMO and Bartlett's Test of 25 Items Included in SEM Analysis

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.788
Bartlett's Test of Sphericity	Approx. Chi-Square	4171.044
	df	300
	Sig.	.000

Table 7.14: Extracted factors, their communalities and loadings: Combined (Items included = 25)

Factors	Indicators	Communalities	Factor Loadings	Eigen value	% of variance explained
1. ***Accountability*** approach to environmental management	Stakeholder engagement in standards setting (eam1)	.855	.894	6.16	24.63
	Environmental auditing (eam2)	.552	.697		
	Environmental monitoring (eam3)	.518	.696		
	Sanctions deter future pollution (eam4)	.635	.768		
2. ***Transparency*** on business environmental impacts	Importance of environmental impacts transparency (teii1)	.780	.847	2.74	10.96
	EIA as basis for informed consent (teii2)	.662	.786		
	Stakeholder pressure for transparency (teii4)	.716	.824		
3. ***Community reaction*** to environmental condition	Access blocking (cnab2)	.709	.820	2.31	9.25
	Struggle for resource control (cnab3)	.714	.827		
	Demonstration of grievances (cnab4)	.704	.802		
4. ***Non-compliance*** with environmental requirements	Visibility of non-compliance (npnid1)	.741	.833	1.97	7.87
	Grievances for negligence (npnid2)	.585	.738		
	Lack of accountability (npnid3)	.730	.813		
5. Environmental ***risks awareness***	Polluted atmospheric air (apepr2)	.733	.802	1.83	7.32
	Polluted drinkable water (apepr3)	.643	.787		
	Degraded ecosystem (apepr4)	.744	.799		
6. ***Intentional*** response to potential external threats	Beliefs about consequences of unacceptable performance (cbi1)	.714	.771	1.71	6.82
	Effectiveness of external pressure (cbi2)	.656	.761		
	Corporate perception of world-view (cbi3)	.679	.788		
7. Corporate ***commitment*** to environmental issues	Environmental proactivity (cces1)	.809	.846	1.55	6.21
	Compensating for undue pollution (cces2)	.586	.704		
	Timely response to pollution incidence (cces4)	.655	.709		
8. ***Alignment of CSR*** initiatives with business impacts	CSR alignment with impacts preferred (csria1)	.647	.776	1.26	5.03
	Alignment addresses pollution impacts directly (csria2)	.637	.746		
	Alignment guides impacts mitigation evaluation (csria4)	.604	.757		

Sample size: *N* = 302 (Oil Companies' *N* = 41; Communities/NGOs' *N* = 122; and Experts' *N* = 139).

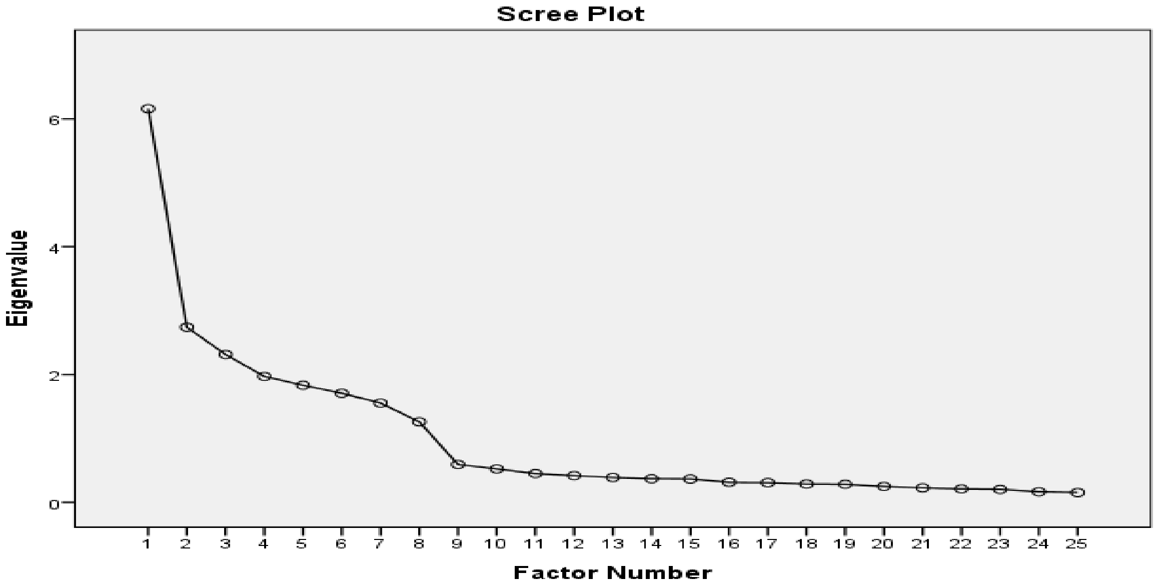
Consequently, the internal reliability test and factor analysis were repeated after excluding these 6 items. The results in Table 7.12 show an improvement in average of all the correlation coefficients of the measured items (Cronbach's $\alpha = 0.870$). KMO, which measures sampling adequacy is 0.788, higher than threshold of 0.6 (Table 7.13).

The overall results are summarised in Table 7.14. Eight-factor solution still emerged from the 25 variables (Table 7.14 & 15) and the names of these factors remain the same as in Section 7.3.2. The communalities of the 25 variables are > 0.50 (see column 3, Table 7.14). The cumulative eigenvalues, 78.09% (Table 15), is higher than that obtained with 31 items (i.e., 68.85%) (Appendix 4E). Apart from the emerging eight factors, the first factor accounts for only 24.63%, which is < 50% of variance in the model. Therefore, single method-bias is not a problem in the aggregated data used in testing the hypotheses. The scree plot (Figure 7.18) shows the relationship of the eigenvalues with the 25 items.

Table 7.15: Total Variance Explained by the Factors Extracted from the 25 Items

	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
Factor	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	6.157	24.628	24.628	5.843	23.372	23.372	2.660	10.639	10.639
2	2.739	10.956	35.584	2.427	9.707	33.079	2.182	8.729	19.367
3	2.311	9.246	44.829	2.019	8.078	41.156	2.142	8.569	27.936
4	1.968	7.873	52.702	1.649	6.595	47.751	2.068	8.274	36.210
5	1.830	7.321	60.023	1.500	6.000	53.751	2.063	8.250	44.460
6	1.705	6.820	66.843	1.385	5.539	59.290	1.999	7.996	52.456
7	1.552	6.209	73.052	1.246	4.983	64.274	1.981	7.923	60.379
8	1.259	5.034	78.086	.941	3.763	68.037	1.915	7.658	68.037
9	.591	2.363	80.449						
10	.522	2.087	82.537						
11	.449	1.795	84.331						
12	.416	1.665	85.997						
13	.388	1.551	87.548						
14	.367	1.469	89.017						
15	.364	1.454	90.471						
16	.312	1.250	91.721						
17	.306	1.224	92.945						
18	.285	1.139	94.084						
19	.281	1.122	95.206						
20	.248	.991	96.197						
21	.225	.900	97.097						
22	.209	.835	97.933						
23	.201	.804	98.737						
24	.165	.658	99.395						
25	.151	.605	100.000						

Figure 7.18: Scree plot of 8-Factor Solution in Combined Groups (Items included = 25)



7.5 Evaluation of Measurement Model Equivalent across Groups of Stakeholders

The focus of measurement model equivalence is on the observed variables. In testing for multi-group equivalence of a measuring instrument, the interest centres on the factor variances. Where there is a significant variation in factor loadings among the groups, other group factorial analysis become meaningless because group participants do not have similar understanding of the measuring instrument (Byrne, 2008). In this section factor loadings (i.e., measurement weights) equivalence across the group is examined.

7.5.1 The Choice of Parameter Estimation Method and Normality Checks

The choice of parameter estimation method in a CFA and SEM is important in a multivariate analysis. Maximum likelihood estimation (MLE) is often preferred in SEM because its likelihood function can be deduced from an assumption of multivariate normality of the manifest variables (Blunch, 2013). However, MLE in CFA requires large sample size, normally distributed item responses, and reliable indicators of each latent construct, but these ideal assumptions are rarely met in most studies (Hau & Marsh, 2004).

The assessment of normality results as shown in Appendix 6B indicates some level of non-normality distribution. Skewness (i.e., S = 0) measures "symmetric or asymmetric" distribution of the variables' data; while kurtosis (i.e., K = 0) measures the "peakiness". From the Table in Appendix 6B, all the variables have negative skewness, with values significant at $p < 0.01$ and positive kurtosis confirming non-normality distribution. From the results, the null hypotheses that skewness and kurtosis have zero values are rejected.

However, Hau & Marsh (2004) suggest that correlations are important in deciding to accept or reject estimation method for poor distribution normality. They suggest that where most skewnesses and/or kurtoses are larger in absolute value than 2.0 and most correlation coefficients are low (say 0.2 and lower), larger skews may be acceptable. In this study, more than 70% correlation coefficients are 0.2 and below (see Appendix 6C); and only cces1 and apepr2 have skewness and kurtosis values that are slightly higher than 2 and 3, respectively (Appendix 6B). Based on Hau & Marsh (2004) suggestion, this level of non-normality distribution is acceptable in multivariate studies. Besides, de Vaus (2001) argues that parametric statistics can be used on non-normally distributed population because 'some of these statistics are *robust* and yield very similar results regardless of whether their assumptions are met' (p102).

However, given that severe non-normality biases parameter estimates, test results, and fit measures (Blunch, 2013), bootstrapping technique was further used to validate the multivariate model of the study. The technique considers sample to be population, and it uses random sampling with replacement method to compute sample statistics. In which case the basic multivariate assumption is set aside (Blunch, 2013). As Hair *et al* (2006) add, in a multivariate analysis, the researcher should not only strive to estimate a significant model but should ensure that the model represents the whole data. Bollen-Stine bootstrap shows that the model fits well in 300 out of 302 samples (Table 7.16). Based on bias-corrected 95% confidence intervals, the model is correct at Bollen-Stine bootstrap statistic of p = 0.010.

Table 7.16: Bollen-Stine Bootstrap (Default model)

The model fit better in 300 bootstrap samples. It fit about equally well in 0 bootstrap samples. It fit worse or failed to fit in 2 bootstrap samples. Testing the null hypothesis that the model is correct, Bollen-Stine bootstrap p = .010

Furthermore, Monte Carlo parametric bootstrapping procedure was used to confirm the choice of MLE method for the study. MLE, bootstrapping N=302 with Mean = 526.223 and S.E = 0.953 (Table7.17a) is preferred to general least squares (GLS) with Mean = 771.141 and S.E = 3.152 (Table 7.17b). MLE was chosen because the estimation method that yields the least mean discrepancy is often preferred (Arbuckle, 2013). The choice agrees with Hair *et al* (2006) and

Hau & Marsh (2004) suggestion of the MLE as most acceptable estimation technique when the sample sizes are in the range of 150 to 400. Moreover, MLE technique produces better solutions than others in the presence of non-normality (Muthen & Kaplan, 1985). Hence MLE was used in CFA, SEM and MGI analyses.

Table 7. 17(a): ML Discrepancy (implied vs pop) (Default Model)

```
                                |-------------------
                    485.393     |*
                    491.631     |*
                    497.868     |****
                    504.106     |*******
                    510.343     |**********
                    516.581     |***************
                    522.818     |*****************
N = 302             529.056     |************
Mean = 526.223      535.293     |*************
S. e. = .953        541.530     |**********
                    547.768     |*****
                    554.005     |*****
                    560.243     |**
                    566.480     |*
                    572.718     |*
                                |-------------------
```

Table 7.17(b): GLS Discrepancy (implied vs pop) (Default Model)

```
                                |-------------------
                    626.183     |*
                    648.798     |**
                    671.414     |**
                    694.030     |******
                    716.646     |*************
                    739.262     |***************
                    761.878     |****************
N = 302             784.494     |******************
Mean = 771.141      807.110     |*************
S. e. = 3.152       829.726     |**********
                    852.342     |***
                    874.958     |**
                    897.574     |***
                    920.190     |*
                    942.806     |*
                                |-------------------
```

7.5.2 Reliability and Validity Test of Eight Constructs Included in the Study

As emphasised in Hair *et al.* (2006) 'because no single item is a perfect measure of a concept, we must rely on series of diagnostic measures to assess internal consistency' (p137). Fornell & Larcker (1981, p45) further add that, 'before testing for a significant relationship in the structural model, one must demonstrate that the measurement model has a satisfactory level of validity and reliability'. Therefore, the internal reliability and consistency of the constructs employed in testing the hypothetical relationship were examined. Table 7.18 presents the summary of internal reliability, construct reliability and convergent validity tests results. The internal consistency of each of the eight constructs were computed (see Chapter 6, Section 6.6.1 and Appendix 5). For reason of parsimony two items with sign of outliers (as seen in standard deviation) and low item-total correlation were excluded from RisAw, one from ComReact, one from EnvTransp, one from CSRAlign, and one from CoCommit.

An item analysis procedure was used in testing the internal reliability of the variables of each construct. The analysis followed an iterative step while checking the construct's Cronbach's α and corrected item-total correlation. For example, Environmental Risk Awareness (RiskAw) yielded Cronbach's α = 0.801 and the item, "Uncleaned oil spills grieve the affected community" yielded corrected item-total correlation of 0.454 in the first analysis. Although average correlation coefficient of these five items (α = 0.801) is > 0.70, the item-total correlation of "Uncleaned oil spills grieve the affected community" with other items is < 0.50. This necessitated a rerun of the analysis after deleting this item. In the second analysis of this construct "Decline in farming activities of local communities is associated with undue environmental pollution" yielded item-total correlation of 0.480 (α = 0.814). This item was also deleted for low item-total correlation in the third analysis which yielded Cronbach's α = 0.868 and item-total correlation > 0.50 in all the three items. The process was repeated for all the items with low communalities.

Following this procedure, the 25 variables retained in the study have item-to-total correlations greater than 0.6 in respective group of constructs (see third column of Table 7.18 & Appendix 5). Moreover, all the latent constructs have Cronbach's α > 0.7 (see fourth column, Table 7.18), indicating acceptable average correlation coefficients of the items in respective constructs. The results confirm the internal reliability and consistency of the measurement variables of the eight constructs.

Table 7.18: Reliability and Convergent Validity Tests

Construct	Item	Corrected item-total correlation	Cronbach's Alpha (α)	Composite Reliability (CR)	AVE
Risks awareness (RiskAw)	Polluted atmospheric air (apepr2)	0.769	0.868	0.867	0.685
	Polluted drinkable water (apepr3)	0.717			
	Degraded ecosystem (apepr4)	0.759			
Community reaction (ComReact)	Access blocking (cnab2)	0.769	0.877	0.871	0.693
	Struggle for resource control (cnab3)	0.760			
	Demonstration of grievances (cnab4)	0.759			
Transparency (EnvTransp)	Importance of environmental impacts transparency (teii1)	0.789	0.879	0.874	0.699
	EIA as basis for informed consent (teii2)	0.751			
	Stakeholder pressure for transparency (teii4)	0.762			
Non-compliance (NonCompli)	Visibility of non-compliance (npnid1)	0.754	0.860	0.867	0.685
	Grievances for negligence (npnid2)	0.699			
	Lack of accountability (npnid3)	0.757			
Accountability (AcctProc)	Stakeholder engagement in standards setting (eam1)	0.825	0.869	0.888	0.667
	Environmental auditing (eam2)	0.683			
	Environmental monitoring (eam3)	0.652			
	Sanctions deter future pollution (eam4)	0.730			
CSR Alignment (CSRAlign)	CSR alignment with impacts preferred (csria1)	0.694	0.830	0.844	0.643
	Alignment addresses pollution impacts directly (csria2)	0.697			
	Alignment guides impacts mitigation evaluation (csria4)	0.681			
Intention (CoIntent)	Beliefs about consequences of unacceptable performance (cbi1)	0.732	0.852	0.852	0.658
	Effectiveness of external pressure (cbi2)	0.711			
	Corporate perception of world-view (cbi3)	0.725			
Commitment (CoComit)	Environmental proactivity (cces1)	0.777	0.857	0.869	0.690
	Compensating for undue pollution (cces2)	0.702			
	Timely response to pollution incidence (cces4)	0.712			

Again, Table 7.18 also presents composite reliability (CR) and average variance extracted (AVE) tests values (see Section 6.6.1 for details). The acceptable values of CR and AVE, according to (Fornell & Larcker, 1981; Bagozzi & Yi, 1988; and Hair *et al*, 2006) are 0.6 and 0.5 and above, respectively. Based on the results, the construct reliability and convergent validity of the measurement model were established, and they are above 0.6 and 0.5, respectively. This provides the evidence that the scales behave as expected (Fallows & Jobber, 2000).

7.5.3 Testing for Discriminant Validity and Multi-collinearity of Eight Constructs

Discriminant validity test establishes whether the latent variables are highly correlated among themselves. Highly correlated variables indicate multi-collinearity among the constructs. Multi-collinearity can complicate the interpretation of relationships of the constructs because it is difficult to ascertain the effect of any single construct (Hair *et al*, 2006). Moreover, the square roots of each construct's AVE (diagonal values in bold) shown in Table 7.19 are greater than the correlation coefficients between the construct and other constructs in columns and rows as suggested in Fornell & Larcker (1981). As the Table further discloses, these values do not exceed the threshold of 0.85, as value closer to 1 indicates existence of multi-collinearity among the latent constructs (Kline, 2005; Chong *et al.*, 2014). The results confirm that scores on a test do not correlate with scores from other tests. Therefore, constructs discriminant validity is achieved as there is no multi-collinearity problem.

Table 7.19: Correlation Martrix for Assessing Discriminant Validity

	CoComit	ComReact	AcctProc	CoIntent	CSRAlign	RiskAw	NonCompli	EnvTransp
CoComit	**.709**							
ComReact	.126	**.765**						
AcctProc	.359	.099	**.784**					
CoIntent	.340	.162	.204	**.709**				
CSRAlign	.152	.181	.160	.207	**.615**			
RiskAw	.179	.257	.149	.172	.203	**.721**		
NonCompli	.189	.188	.140	.178	.175	.206	**.767**	
EnvTransp	.142	.080	.189	.142	.184	.211	.235	**.838**

7.5.3.1 Testing multi-collinearity among the observed variables

To confirm non-existence of multi-collinearity among the observed variables, tolerance level and variance inflation factor (VIF) were computed (see Appendix 6A). The 'generic cut-off values, such as VIF ≥ 5 or VIF ≥ 10, are commonly used to determine if the collinearity is strong enough to require remedial measures' (Craney & Surles, 2002, p392). The computed VIFs of the observed variables are < 5. This confirms that there is no multicollinearity among the independent observed variables of each of the constructs that could warrants remedial measures.

7.5.4 Testing for Measurement and Structural Means Model Invariance across Groups

In factorial invariance analysis, the focus of the measurement model is on the correspondence of factors across separate groups in the same study as this confirms that the data could be treated as one (Jöreskog & Sörbom, 1989; Byrne, 1989; Deng *et al*, 2005). The procedure is nesting of the goodness-of-fit (GOF) of parameters constrained to be equal across groups with less restrictive model in which these same parameters are free to take on any value (Byrne, 1989). If the difference in χ^2 ($\Delta\chi^2$) is not significant, then the hypothesis of invariant pattern of factor loadings is accepted. The same is followed to establish invariant mean structure, structural weights, and others.

The researcher follows Scholderer *et al.* (2004) and Blunch (2013) in considering root mean squared error of approximation (RMSEA) as the main measure of model fit. The consideration is that RMSEA takes into account the error of approximation in the population (Ho, 2006). Also, the relative fit-indices of ≥ 0.80 is also considered adequate as suggested in Den *et al*. (2005). The analysis starts with group-specific models fitting, termed baseline models (Byrne, 2008).

7.5.4.1 Group-specific measurement model GOF

The modified input measurement model in its graphical form is presented in Appendix 9A. The output in text form follows sequentially. The same measurement model before modification and the text output are in Appendix 7. The measurement model fit summaries of respective groups are discussed below beginning with oil multinational corporations (OMNCs).

OMNCs' Measurement Model GOF

Table 7.20 presents the GOF of sample of OMNCs. The χ^2 = 349.402 is significant at $p < 0.01$. The model does not fit the data based on χ^2. The model fits are improved and considered adequate based on RMSEA (0.103), IFI (0.841) and CFI (0.827). The consideration of this sample group in further analysis is also supported by its high observed variable communalities (MacCallum *et al.*, 1999; Meade, 2005) (see Table 7.28).

Table 7.20 Measurement Model Fit Summary of OMNCs after Modification (*N* = 41)

Model	χ^2	DF	GFI	RMSEA	IFI	TLI	CFI
Structural	349.402	245	0. .645	0.103	0.841	0.788	0.827

Communities/NGOs' Measurement Model GOF

The model fitness in CNGOs' sample is better because of its size, (*N* = 122). As it is in all cases, χ^2 hypothesised to be insignificantly different from zero does not hold. Therefore, the model misfit based on χ^2. However, the data still fit model based on RMSEA of 0.075, and IFI = 0.903, TLI = 0.877, and CFI = 0.900 (Table 7.21). The CNGOs' data fit well the model and thus support its being included in the structural MGI analysis.

Table 7.21 Measurement Model Fit Summary of CNGOs after Modification (*N* = 122)

Model	χ^2	DF	GFI	RMSEA	IFI	TLI	CFI
Structural	410.746	245	0. .812	0.075	0.903	0.877	0.900

Experts' Measurement Model GOF

The model fit indices of data from EXPTs' group indicate good model-data fit. Apart from χ^2, all the indices, RMSEA (0.063), GFI (0.827), IFI (0.936), TLI (0.920), and CFI (0.935) fall within acceptable region (Table 7.22). Therefore, this sample well represents the group of the environmental stakeholders in this study.

Table 7.22: Measurement Model Fit Summary of EXPTs after Modification (*N* = 139)

Model	χ^2	DF	GFI	RMSEA	IFI	TLI	CFI
Structural	381.267	245	0.827	0.063	0.936	0.920	0.935

7.5.4.2 Multigroup measurement model goodness-of-fit test

The measurement model GOF summary is presented in Table 7.23. The χ^2 of unconstrained measurement model fit is 1144.821 (*N* = 302, df =735) and significant at 5% level indicating the model-data fit inadequacy. The GFI in both models, unconstrained and factor loading, are 0.791 and 0.784, respectively, indicating misfit. However, IFI = 0.909, TLI = 0.885 and CFI = 0.909, all show that the model fit is adequate. The RMSEA = 0.043 (< 0.1) confirming that the model-data fit is acceptable (Scholderer *et al.*, 2004). Again, the constrained measurement model with RMSEA of 0.043 (< 0.1) confirms that the model-data fit is acceptable. The other model fit indices of the constrained measurement model IFI = 0.906, TLI = 0.887 and CFI = 0.904, also disclose that the model-data fit is adequate.

Table 7.23: Multi-Group Invariance - Measurement Model Fit Summary

Model	χ^2	DF	GFI	RMSEA	IFI	TLI	CFI
Unconstrained (Variant)	1144.821	735	.791	.043	.909	.885	.906
Measurement weights (Factor Loadings)	1187.999	769	.784	.043	.906	.887	.904

Sample size: *N* = 302 (Oil Companies' *N* = 41; Communities/NGOs' *N* = 122; and Experts' *N* = 139).

7.5.4.3 Structural means model goodness-of-fit test

Table 7.24 presents the structural means model of GOF summary (see Appendix 8A for details). The χ^2 of the measurement intercept is significant at 5% level (1261.991) and this indicates data-model misfit. However, since multivariate parameters' fitness are not based on χ^2 given its sensitivity to sample size, researcher rely heavily RMSEA and relative indices model fit statistics. The Table reveals that RMSEA is less than 0.080 (i.e., 0.043); and IFI = 0.898, TLI = 0.884 and CFI = 0.896 all suggest good data-model fit.

Table 7.24: Multi-Group Invariance – Structural Means Model Fit Summary

Model	χ^2	DF	GFI	RMSEA	IFI	TLI	CFI
Measurement intercepts	1261.991	809	-	.043	.898	.884	.896
Structural Means	1303.042	825	-	.044	.892	.880	.890

Sample size: N = 302 (Oil Companies' N = 41; Communities/NGOs' N = 122; and Experts' N = 139).

The χ^2 (1303.042) of structural means model is also significant at 5% level. The RMSEA of 0.044 and the relative indices, IFI (0.892), TLI (0.880), and CFI (0.890), all suggest adequate model fit of structural means model.

7.5.4.4 Nested measurement and structural means invariance models

The summary of the differences of GOF of measurement and structural means models are displayed in Table 7.25 and Appendix 8B and 9F.

Nested Measurement Invariance Models

Table 7.25 reveals that the difference in χ^2 ($\Delta\chi^2$) of constrained and unconstrained measurement models is 43.177 (1187.999 – 1144.821) with change in df (Δdf) 34. The result indicates that the difference is not significant at 5 % level (p = 0.135). This shows that the factor loadings across all the group participants – the oil companies, communities/NGOs, and government institutions (experts) – are not significantly difference. The impression is that they have similar understanding of the data collection instrument. The hypothesised measurement group invariance therefore holds. It is evidence that the measuring instrument functions in the same way across group. As emphasised in (Jöreskog & Sörbom, 1996) this is a condition for testing any other factorial invariance.

Table 7.25: Summary of Nested Goodness-of-Fit (GOF) for Multi-Group Invariance Test

S/N	Model description	Groups	χ^2	df	Nested models	$\Delta\chi^2$	Δdf	P-value	Remarks
1.	Unconstrained measurement model (1a)	OMNCs, CNGOs, EXPTs	1144.821	735	-	-	-	-	-
2.	Constrained Measurement weights (1b)	OMNCs, CNGOs, EXPTs	1187.999	769	1b – 1a	43.177	34	.135	Not significant
3.	Unconstrained measurement intercepts model (2a)	OMNCs, CNGOs, EXPTs	1261.991	809	-	-	-	-	-

4.	Constrained structural means model (2b)	OMNCs, CNGOs, EXPTs	1303.042	825	2b – 2a	41.051	16	0.01	Significant

The Nested Structural Means Model

Table 7.25 also displays the difference in χ^2 ($\Delta\chi^2$) of constrained structural means and measurement intercept models as 41.051 (1303.042 – 1261.991) with change in df (Δdf) 16. In this test measurement intercept is used as unconstrained model because the factor loadings have been found to be invariance across groups (Byrne, 1989). The results indicate a significant difference (p = 0.01) in the mean of latent constructs across groups. The results give clear indication that latent factor variance is not equivalent across groups. This therefore warrants a detailed respective group latent means variation analysis to identify specific latent factors with similar variances and those with dissimilar variances across groups (Blunch, 2013). This is the subject of next section. The findings will give credence to the study hypotheses testing which focus on invariance of structural weights across groups.

7.5.5 Latent Construct Means Variation Analysis

Table 7.26 and 7.27 present the latent variables means (factor means) of the CNGOs and EXPTs groups. The graphical input measurement model is in Appendix 8A. OMNCs' group was chosen as a control group with 0 constant factor means. The factor means of the remaining groups (CNGOs and EXPTs) were freely estimated. These estimated factor means express the variation in means of latent constructs between groups and the reference group (Blunch, 2013).

Table 7.26: Structural Means Variation: CNGOs Group

	Estimate	S.E.	C.R.	P	Label
NonCompli	.181	.168	1.074	.283	mn1_2
RiskAw	.337	.165	2.047	.041	mn2_2
AcctProc	.481	.180	2.675	.007	mn3_2
ComReact	.149	.145	1.022	.307	mn4_2
CoIntent	-.073	.146	-.502	.616	mn5_2
CoComit	.287	.161	1.785	.074	mn6_2
CSRAlign	.342	.168	2.030	.042	mn7_2
EnvTransp	.226	.163	1.381	.167	mn8_2

Table 7.27: Structural Means Variation: EXPTs Group

	Estimate	S.E.	C.R.	P	Label
NonCompli	.111	.172	.646	.518	mn1_3
RiskAw	.143	.161	.887	.375	mn2_3
AcctProc	.533	.187	2.852	.004	mn3_3
ComReact	.181	.149	1.210	.226	mn4_3
CoIntent	.045	.147	.304	.761	mn5_3

	Estimate	S.E.	C.R.	P	Label
CoComit	.184	.167	1.103	.270	mn6_3
CSRAlign	.653	.169	3.864	***	mn7_3
EnvTransp	.311	.151	2.059	.040	mn8_3

Given "0" factor means of OMNCs, the CNGOs and EXPTs groups were assumed to be 0, or not significantly different from 0. The results reveal that CNGOs' mean estimate of NonComli (Non-Compliance with environmental standards requirements) is 0.181 above that of OMNCs. However, given computed C.R. value of 1.074 the factor mean variation is not significantly different from 0 at 5% level (i.e., C.R. < ± 1.96, $p > 0.05$; $p = 0.283$). In EXPTs group NonComli mean estimate is 0.111 above 0 and it is not statistically significant at 5% level ($p = 0.518$) (see Table 7.27). It could therefore be concluded that there is no significant mean variation of Non-Compliance construct across groups. That is, this factor's variance does not vary across groups. In other words, all the groups consider this as a necessary factor in environmental sustainability practice.

The results show that the latent mean variances of RiskAw (Environmental Risk Awareness) do vary between OMNCs' group and CNGOs but not between OMNCs and EXPTs groups. The estimated mean variation of CNGOs (0.337) is statistically significant at 5% level; while that of EXPTs (0.143) is not significant at the same p-value. The variance of the factor, AcctProc, (Accountability Approach to Environmental Management) varies significantly across groups. The estimated variance of AcctProc in CNGOs and EXPTs are 0.481 and 0.533 above that of OMNCs, respectively. This variance points to variation in groups' perceptions over accountability as a factor in CSR and environmental sustainability policy and practice.

The estimated latent mean factors of ComReact (Community Reaction) and CoIntent (Corporate Intentional response to potential external threats) in CNGOs and EXPTs groups indicate that the variances are not significantly different from that of OMNCs at 5% level. The results give impression that all groups consider *Community Reaction* and *Intention* as good factors in CSR and environmental sustainability management.

The factor mean variance of CoComit (Corporate Commitment to Environmental Sustainability) does not vary between OMNCs and CNGOs. The estimated mean of 0.287 is significant at 10% level ($p = 0.074$). This portrays a dissimilarity in the way stakeholders in OMNCs and CNGOs perceive these constructs as factor in environmental management. However, results show no significant variation of the variance of CoComit between CNGOs and EXPTs. These two groups do not vary in the way they perceive *Commitment* as a sustainability factor.

Another construct with significant mean variance difference across group is CSRAlign (CSR Initiative Alignment with Impact). The estimated mean variation in OMNCs is 0.342 at p = 0.05 and in EXPTs it is 0.653 at p = 0.01. Again, this points to differences in groups' perceptions over "Alignment of CSR with Environmental Pollution Impact" as a factor in CSR and environmental sustainability policy and practice. In case of EnvTransp (Environmental Transparency), the structural mean does not vary between OMNCs and CNGOs, but it varies between OMNCs and EXPTs group.

The results in this section demonstrates that even though groups have similar understanding about the measuring instrument, the mean variances of the factors may still differ across group. This signals possibility of stakeholders' variation in theoretical relationships of the constructs across groups.

7.6 Evaluation of Structural Model Invariance across Groups of Respondents

In contrast to tests for measurement equivalence, which focus on aspects of the observed variables, test for structural equivalence centres on the unobserved (or latent) variables (Byrne, 2008). The structural equivalence test is crucial in this study because it examines the extent to which the dimensionality of a construct, as defined by theory, holds across groups (Byrne & Shavelson, 1987).

Therefore, apart from measurement and latent factor mean invariance analyses reported in previous sections, the respective group data were also passed through three further stages of validation before included in the structural weights invariance analysis. This is recommended in a study that needs to test the structural invariance across group (Byrne, 1989; MacCallum, 1986; MacCallum *et al.*, 1999; Meade, 2005). The additional analyses are:

1) Sample size VS. communalities
2) Checking for common-method biases among respective groups
3) Baseline model fit in respective groups

7.6.1 Sample Size VS. Communalities

The communalities of respective group data are displayed in Table 7.28. The communalities were extracted using Principal Component Analysis method in EFA. Examination of OMNCs column reveals that all variable communalities are > 0.6. As suggested in MacCallum *et al.* (1999) when communalities are consistently high, 'good recovery of population factors can be achieved with samples that would traditionally be considered too small for factor analytic studies, even when *N* is well below 100' (p96). Although OMNCs sample is relatively small, the high communalities show that the sample represents well the population in multigroup invariance study such as this. Meade's (2005) findings also suggest that the data properties, such as items communalities, not just the size only, must be considered when determining the data representation in multigroup invariance analysis.

Table 7.28: Individual Group Communalities Based on Principal Component Extraction

Item	Oil Companies (OMNCs)		Communities & NGOs (CNGOs)		Experts (EXPTs)	
	Initial	Extraction	Initial	Extraction	Initial	Extraction
Polluted atmospheric air (apepr2)	1.000	.728	1.000	.859	1.000	.729
Polluted drinkable water (apepr3)	1.000	.800	1.000	.861	1.000	.773
Degraded ecosystem (apepr4)	1.000	.744	1.000	.856	1.000	.813
Access blocking (cnab2)	1.000	.805	1.000	.784	1.000	.843
Struggle for resource control (cnab3)	1.000	.835	1.000	.768	1.000	.851
Demonstration of grievances (cnab4)	1.000	.660	1.000	.753	1.000	.878
Importance of environmental impacts transparency (teii1)	1.000	.806	1.000	.854	1.000	.805
EIA as basis for informed consent (teii2)	1.000	.679	1.000	.886	1.000	.731
Stakeholder pressure for transparency (teii4)	1.000	.796	1.000	.877	1.000	.766
Visibility of non-compliance (npnid1)	1.000	.756	1.000	.812	1.000	.844
Grievances for negligence (npnid2)	1.000	.674	1.000	.727	1.000	.816
Lack of accountability (npnid3)	1.000	.824	1.000	.773	1.000	.817
Stakeholder engagement in standards setting (eam1)	1.000	.842	1.000	.813	1.000	.879
Environmental auditing (eam2)	1.000	.713	1.000	.654	1.000	.736
Environmental monitoring (eam3)	1.000	.747	1.000	.604	1.000	.734
Sanctions deter future pollution (eam4)	1.000	.852	1.000	.686	1.000	.734
CSR alignment with impacts preferred (csria1)	1.000	.805	1.000	.675	1.000	.849
Alignment addresses pollution impacts directly (csria2)	1.000	.804	1.000	.648	1.000	.795
Alignment guides impacts mitigation evaluation (csria4)	1.000	.697	1.000	.714	1.000	.816
Beliefs about consequences of unacceptable performance (cbi1)	1.000	.771	1.000	.768	1.000	.788
Effectiveness of external pressure (cbi2)	1.000	.764	1.000	.656	1.000	.816
Corporate perception of world-view (cbi3)	1.000	.722	1.000	.741	1.000	.844
Environmental proactivity (cces1)	1.000	.849	1.000	.684	1.000	.852
Compensating for undue pollution (cces2)	1.000	.912	1.000	.425	1.000	.807
Timely response to pollution incidence (cces4)	1.000	.847	1.000	.621	1.000	.808

Extraction Method: Principal Component Analysis.
Sample size: OMNCs, N = 41; CNGOs, N = 122; and EXPTs, N = 139.

Moreover, the communalities of all items in CNGOs are > 0.6 except "Compensating for undue pollution" which is 0.425. This indicator is retained in the analysis since the sample size in this group is greater than 100. The findings of MacCallum *et al.* (2001) suggest that when communalities are low, the sample size should necessarily be high. Therefore, the low communality of this one item cannot have any significant effect on the overall results of CNGOs' group.

In terms of EXPTs group, all the communalities are greater > 0.6. The indication is that the measuring instrument is consistent and stable across groups. Based on these findings it could be concluded that each of the groups represents well the intended population in multiple group analysis.

7.6.2 Testing for Common-Method Bias in the Respective Groups

Testing for common-method bias is recommended as a necessary step that precede structural invariance analysis across groups (Cliff, 1983; Byrne *et al.*, 1989). Therefore, *Harman's single factor test* was conducted separately on each data group using EFA statistical technique (Harman, 1976). However, it is noted in Byrne *et al.* (1989) that it is not conditional for the number of factors to be equivalent across groups; 'only comparable parameters with the same factor need be equated' (p457).

The summary of factor solutions of respective groups and combined group is as shown in Table 7.29 (see detailed analysis in Appendix 6D). Accountability is identified as the first factor in combined and Experts groups. Oil Companies identifies Environmental risk awareness and CSR alignment as first factor; while intention and commitment are identified in community/NGOs group as first factor. Although all the groups do not have similar number of factors, the estimated parameters of factor loadings are not significantly different across groups as suggested in Byrne *et al.* (1989). The findings do not suggest existence of common-method biases among the groups' sample. It further validated inclusion of these samples in structural invariance analysis in the next section. It gives impression that the measuring instrument is stable and consistent across groups.

Table 7.29: Summary of ES Factors Identified by Respective and Combined Groups

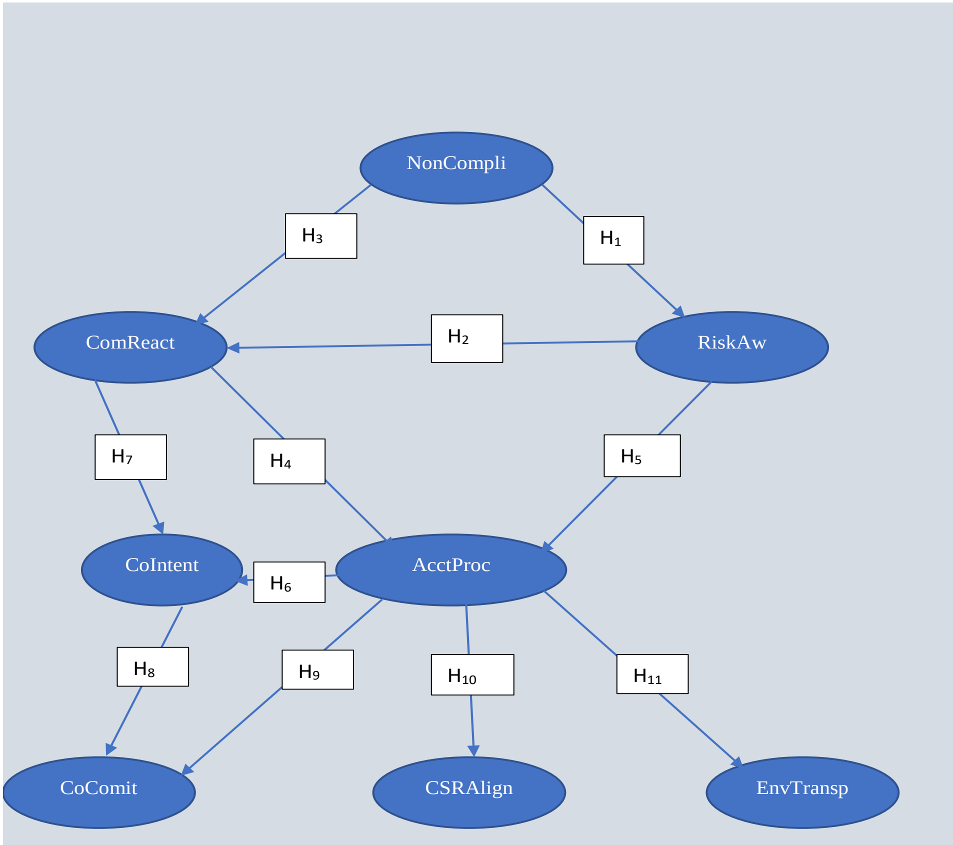
Factor	Oil Companies (OMNCs)	Communities/NGOs (CNGOs)	Experts (EXPTs)	Combined Groups
1	Risk awareness & CSR alignment	Intention & commitment	Accountability	Accountability
2	Accountability	Transparency	Community reaction	Transparency
3	Non-compliance	Risk awareness	Commitment	Community reaction
4	Community reaction	Accountability	Non-compliance	Non-Compliance
5	Commitment	Non-compliance	CSR alignment	Risk Awareness
6	Transparency	Community reaction	Intention	Intention
7	Water contamination	CSR alignment	Risk awareness	Commitment
8	-	-	Transparency	CSR Alignment

Sources: Appendix 6D(i) – 6D(iv)

7.6.3 Structural Model Specification

Given the multivariate analytical technique employed in the study, it becomes necessary to define and clarify the latent constructs included in theoretical structure. As specified in "Four-Step Environmental Sustainability Model" in Chapter 5 and Figure 7.19, corporate (non)compliance with the environmental requirements is the main exogenous factor that portrays the environmental condition. It is the external independent variable.

Figure 7.19: Structural Model with Hypotheses



Based on the conceptual discussion of this theses and hypotheses formulated, the following models are estimated:

RiskAw = *f* (NonCompli) ……………………………….. (EQ1)
ComReact = *f* (NonCompli, RiskAw) ……………………… (EQ2)
AcctProc = *f* (ComReact, RiskAw) …………………………(EQ3)
CoIntent = *f* (ComReact, AcctProc) ……………………… (EQ4)
CoComit = *f* (CoIntent, AcctProc) ……………………....... (EQ5)
CSRAlign = *f* (AcctProc) …………………………………… (EQ6)
EnvTransp = *f* (AcctProc)…………………………………… (EQ7)

Where:

NonCompli = non-compliance with environmental requirements;
RiskAw = awareness of environmental pollution risk;
ComReact = communities' negative reaction towards polluting firms;
AcctProc = environmental accountability procedures;
CSRAlign = CSR initiative alignment with environmental pollution impact;
CoIntent = corporate behavioural intention to improve environmental behaviour
CoComit = corporate commitment to environmental sustainability;
EnvTransp = transparency on environmental impacts information;
f = function of variables in parenthesis;
EQ = Equation.

The coefficient of the estimated path parameter (regression weight) are tested by comparing its critical ratio value with p-value. The critical ratio is defined as:

$$\text{C.R} \quad = \quad \frac{\beta}{S.E}$$

Where: C.R.= Critical ratio value
β = Coefficient of the estimated parameter
S.E = Standard error

The maximum likelihood estimation (MLE) procedure generated the scaler estimates presented in Appendix 11. The S.E of the estimate measures the variation in the predicted values that can be used in developing confidence intervals around any predicted values (Hair *et al,* 2006). It is an index used in assessing the efficiency of the predictor variable in predicting the variation in the endogenous variable (Ho, 2006). As Blaikie (2003) indicates, the less the value of S.E, the more efficient the predictor variable is. In this study, all the S.E scores are small; and the values revolve around 0.1. Therefore, the predictor variables are robust. The C.R of ± 1.96 denotes a 0.05 significance of the path coefficient in a specific relationship. In other words, there is 95% level of confidence in the value of the coefficient of the estimated path parameter.

7.6.4 Group-specific Structural Model GOF

SEM is the statistical technique used in assessing the causal assumptions among the multiple variables; while MGI analysis simultaneously assess these relationships on group basis. The structural model is presented in Appendix 11A. As discussed in Chapter 6 (see Section 6.6.3.2), few constrained error terms of observed variables with modification indices > 5.00 were relaxed to improve the baseline model of this group of samples (N = 41). The modified model applies to other groups because of multiple group invariance (MGI) evaluation (Byrne *et al.,* 1989).

The detailed model fit summary and text output of OMNCs, CNGOs and EXPTs before modification are displayed sequentially in Appendices 10A to 10G. The model modification has not affected the estimated parameters required to test the hypotheses. As argued in Byrne *et al.* (1989), where the estimates of major parameters undergo no appreciable change when additional minor parameters were added to the model, it is an indication that the initially hypothesised model is empirically robust. In the present study, none of the parameters improves after a few modifications. Therefore, the hypothesised model of the study is empirically robust. Hence, group-specific model fits are analysed beginning with OMNCs

7.6.4.1 Oil companies' structural model goodness of fit

Table 7.30 presents the GOF of sample of OMNCs. The χ^2 = 381.459 is significant at $p < 0.01$. The model does not fit the data based on χ^2. The model fit is improved and considered adequate based on RMSEA (0.107), IFI (0.812) and CFI (0.800). The consideration of this sample of OMNCs in group analysis is further supported by its high observed variable communalities (Table 7.28). High communality is considered as necessary basis in case of small sample size (see MacCallum *et al.,* 1999; Meade, 2005).

Table 7.30: Structural Model Fit Summary of OMNCs after Modification (N = 41)

Model	χ^2	DF	GFI	RMSEA	IFI	TLI	CFI
Structural	381.459	261	0.631	0.107	0.812	0.771	0.800

7.6.4.2 Communities/NGOs' structural model goodness of fit

The model fitness in CNGOs' sample is better because of its size, (N = 122). As it is in all cases, χ^2 hypothesised to be insignificantly different from zero does not hold. Therefore, the model misfit based on χ^2. However, the data still fit model based on RMSEA of 0.078, and IFI = 0.888, TLI = 0.868, and CFI = 0.885 (Table 7.31). The CNGOs' group data fit well the model and thus support its being included in the structural MGI analysis.

Table 7.31: Structural Model Fit Summary of CNGOs after Modification (N = 122)

Model	χ^2	DF	GFI	RMSEA	IFI	TLI	CFI
Structural	450.907	261	0.791	0.078	0.888	0.868	0.885

7.6.4.3 Experts' structural model goodness of fit

The model fit indices of data from EXPTs' group indicate good model-data fit. Apart from χ^2, all the indices, RMSEA (0.072), GFI (0.802), IFI (0.913), TLI (0.898), and CFI (0.911) fall within acceptable region (Table 7.32). Therefore, this sample well represents the group of the environmental stakeholders in this study.

Table 7.32: Structural Model Fit Summary of EXPTs after Modification (N = 139)

Model	χ^2	DF	GFI	RMSEA	IFI	TLI	CFI
Structural	446.650	261	0.802	0.072	0.913	0.898	0.911

7.6.5 Testing for Structural Model Invariance across Groups

In this section, the invariance of the estimated path regression weights across the group is tested.

7.6.5.1 Structural model goodness-of-fit test

Table 7.33 and Appendix 11(I) present the summary of structural model GOF. The χ^2 of unconstrained model fit is 1282.646 (N = 302, df = 783) and significant at 5% level, indicating the model-data fit inadequacy. The GFI in the models is 0.769 also indicating misfit. The RMSEA = 0.046, IFI = 0.888, TLI = 0.868, and CFI = 0.885 showing adequate model fit. The χ^2 of the measurement weights (factor loadings) is significant at 5% level (1326.931). The Table reveals that RMSEA is 0.046, and IFI = 0.885, TLI = 0.871, and CFI = 0.883 portraying good model fit. The χ^2 of constrained structural model fit is 1387.575 (N = 302, df = 839) and significant at 5% level. The model fails to fit the data based on χ^2. However, RMSEA = 0.047, IFI = 0.876, TLI = 0.865, and CFI = 0.874 all suggest good model-data fit of structural model.

Table 7.33: Multi-Group Invariance – Structural Model Fit Summary

Model	χ^2	DF	GFI	RMSEA	IFI	TLI	CFI
Unconstrained	1282.646	783	0.769	0.046	0.888	0.868	0.885
Measurement weights	1326.931	817	0.761	0.046	0.885	0.871	0.883
Structural weights	1387.575	839	0.751	0.047	0.876	0.865	0.874

Sample size: N = 302 (Oil Companies' N = 41; Communities/NGOs' N = 122; and Experts' N = 139).

7.6.5.2 Testing of factors equivalent across groups

As Byrne (2008) suggests, where a researcher is interested in testing for cross-group equivalence related to a full structural equation (i.e., path analytic) model, as it is in this study, the focus should be on equality of structural regression paths between and among the postulated latent constructs. The inequality of the regression paths suggests variation in group perceptions of the postulated relationships. The GOF statistics related to the constrained three-group structural model are presented as model 1(b) in Table 7.34. In testing for the invariance of this model, its χ^2 value of 1387.575 with 839 *df* is compared with measurement weights model 1(a) (χ^2 = 1326.931, df = 817). Measurement weights model is assumed to be correct and used as unconstrained model because the factor loadings have been found to be invariance across groups (see Table 7.25). The comparison of the models yielded a value of $\Delta\chi^2$ of 60.644 with Δdf of 22, which is statistically significant ($p < 0.01$).

Table 7.34: Summary of Nested Goodness-of-Fit (GOF) for Multi-Group Structural Invariance Test (Assuming model measurement weights to be correct)

S/N	Model description	Groups	χ^2	df	Nested models	$\Delta\chi^2$	Δdf	P-value	Remarks
1.	Measurement weights model (model 1a)	OMNCs, CNGOs, EXPTs	1326.931	817	-	-	-	-	-
2.	Structural weights model (model 1b)	OMNCs, CNGOs, EXPTs	1387.575	839	1b – 1a	60.644	22	< 0.01	Significant

Based on the results, the structural relationships of the factors are not the same across groups. In other words, group participants' perceptions on the nature of influence, which latent independent variables could wield on latent dependent variables, differ. Group-specific perceptions on the hypothesised theoretical relationship is therefore analysed in next section with attention on respective group perception on influence of environmental accountability.

7.7 Group-Specific Perceptions on Determinants of CSR contribution to ES and Test of Hypotheses

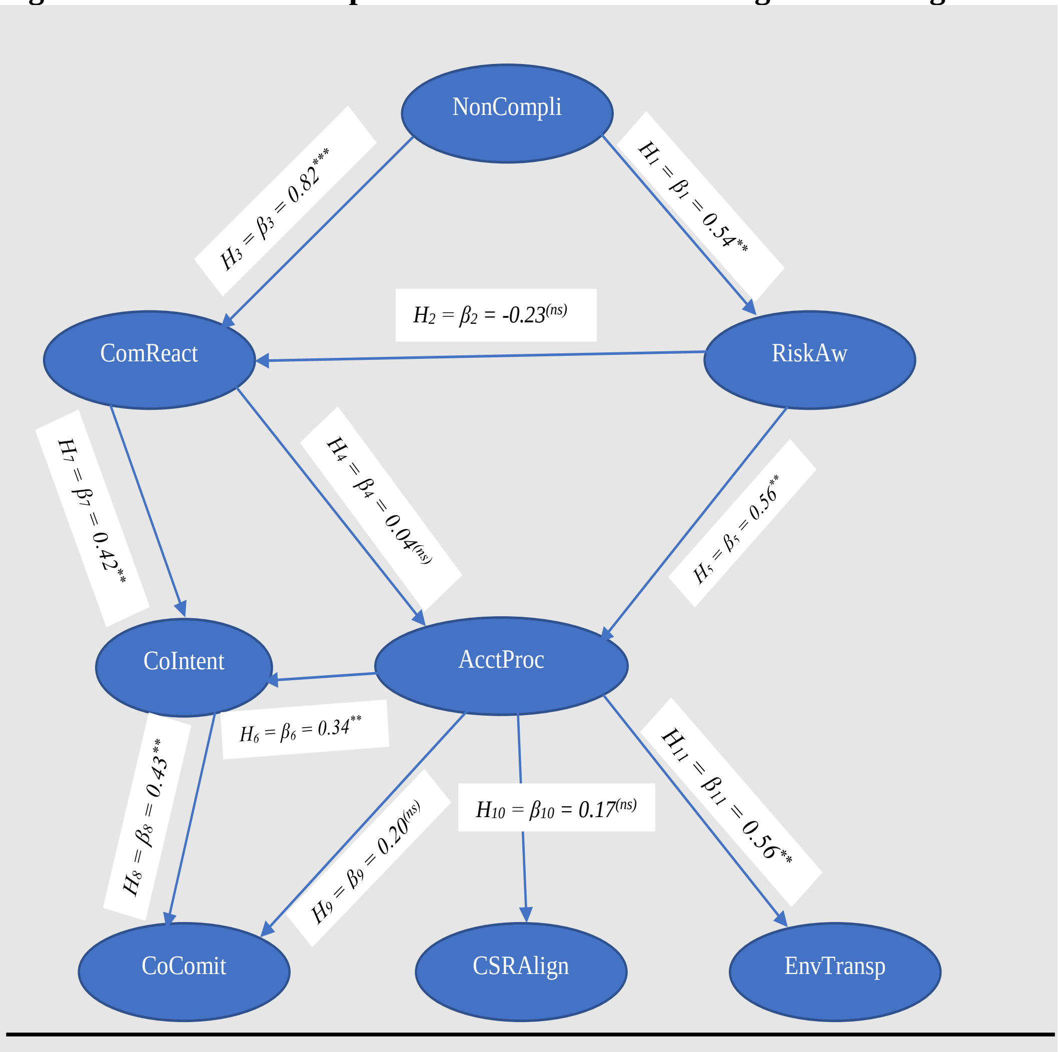
The perceptions of respective groups on theoretical relationships (i.e., regression path coefficients) of factors that could influence CSR contribution to environmental sustainability are presented in Table 7.35, 7.36 and 7.37 for OMNCs, CNGOs and EXPTs, respectively. The detailed output for each group are presented sequentially in Appendix 11B to 11G. The results of each of the three groups are discussed separately below. The arrows show the path from the model's independent to dependent variables.

7.7.1 Perceptions of Environmental Stakeholders from Oil Companies

The graphical and text output of this group of study participants are presented in Figure 7.20 and Table 7.35(a), respectively (see Appendix 11(C). The environmental stakeholder group from OMNCs consider *non-compliance* with environmental regulatory requirements as a key factor with high tendency to increase environmental *risk awareness* (H_1; EQ1). The coefficient of the estimated parameter of this relationship is significant at 5% level ($\beta_1 = 0.543$, $p < 0.05$). The coefficient of determination *(R^2),* indicates that 29.5% variation in risk awareness could be explained by the environmental situation in Niger Delta (Table 7.35(b)). The explanatory power of *risk awareness* is strong because it is greater than conventional 10% required in a multivariate analysis (Falk & Miller, 1992).

They do not consider environmental *risk awareness* as a positive and significant factor behind *community negative reaction* against environmental polluting oil firms ($\beta_2 = -0.234$, $p > 0.1$; H_2); rather environmental condition proxied by *non-compliance* with regulatory requirements is perceived as a key positive driver of *community negative actions* towards oil companies ($\beta_3 = 0.817$, $p < 0.01$; H_2 & H_3; EQ2). The explanatory power of the model is also strong (R^2 = 51.5%). Whereas environmental *risk awareness* is perceived by this group as a significant factor that can influence corporate application of *accountability* procedures as environmental management strategy ($\beta_5 = 0.562$, $p < 0.05$); the group does not consider local community pressure as a significant factor that can drive OMNCs' readiness to adopt APCSR ($\beta_4 = 0.035$, $p > 0.1$; H_5 & H_4; EQ3). However, the two factors could jointly explain 32.5% variation in oil multinationals propensity to adopt APCSR in Nigeria.

Figure 7.20: OMNCs Output Structural Model with Regression Weights



^{ns} = Not significant; β = label for the estimated parameter

Table 7.35(a): OMNCs' Unstandardized Regression Path Coefficients

Path					OMNCs		
Hypothesis	From Independent Variable	To	Dependent Variable	β Label	Estimate	S.E.	C.R.
H_1	Non-compliance (NonCompli)	→	Environmental risk awareness (RiskAw)	β_1	.543	.183	**3.214****
H_2	Environmental risk awareness	→	Community reaction (ComReact)	β_2	-.234	.154	-1.268 ^{ns}
H_3	Non-Compliance	→	Community reaction	β_3	.817	.199	**3.715*****
H_4	Community reaction	→	Environmental accountability (AcctProc)	β_4	.035	.195	.220 ^{ns}
H_5	Environmental risk awareness	→	Environmental Accountability	β_5	.562	.178	**3.227****
H_6	Environmental accountability	→	Intention (CoIntent)	β_6	.336	.145	**2.090****
H_7	Community reaction	→	Intention	β_7	.422	.186	**2.485****
H_8	Intention	→	Commitment	β_8	.427	.187	**2.329****

H_9	Environmental accountability	→	Commitment (CoComit)	β_9	.195	.157	1.139 ^{ns}
H_{10}	Environmental accountability	→	CSR alignment with impact (CSRAlign)	β_{10}	.173	.139	.966 ^{ns}
H_{11}	Environmental accountability	→	Transparency (EnvTransp)	β_{11}	.557	.141	**3.317***

$^{*}p < 0.1$ = estimated coefficient differs significantly from 0 at 10% level of confidence, and
$^{**}p < 0.05$ = estimated coefficient differs significantly from 0 at 5% level of confidence.
$^{***}p < 0.01$ = estimated coefficient differs significantly from 0 at 1% level of confidence.
^{ns} = Not significant

Table 7.35(b): Summary of OMNCs' Coefficient of Determination (R^2)

Latent Construct	Coefficient of Determination R^2
Environmental risk awareness	.295
Community reaction	.515
Environmental accountability procedures	.325
Intention	.335
Transparency	.310
CSR alignment	.030
Commitment	.287

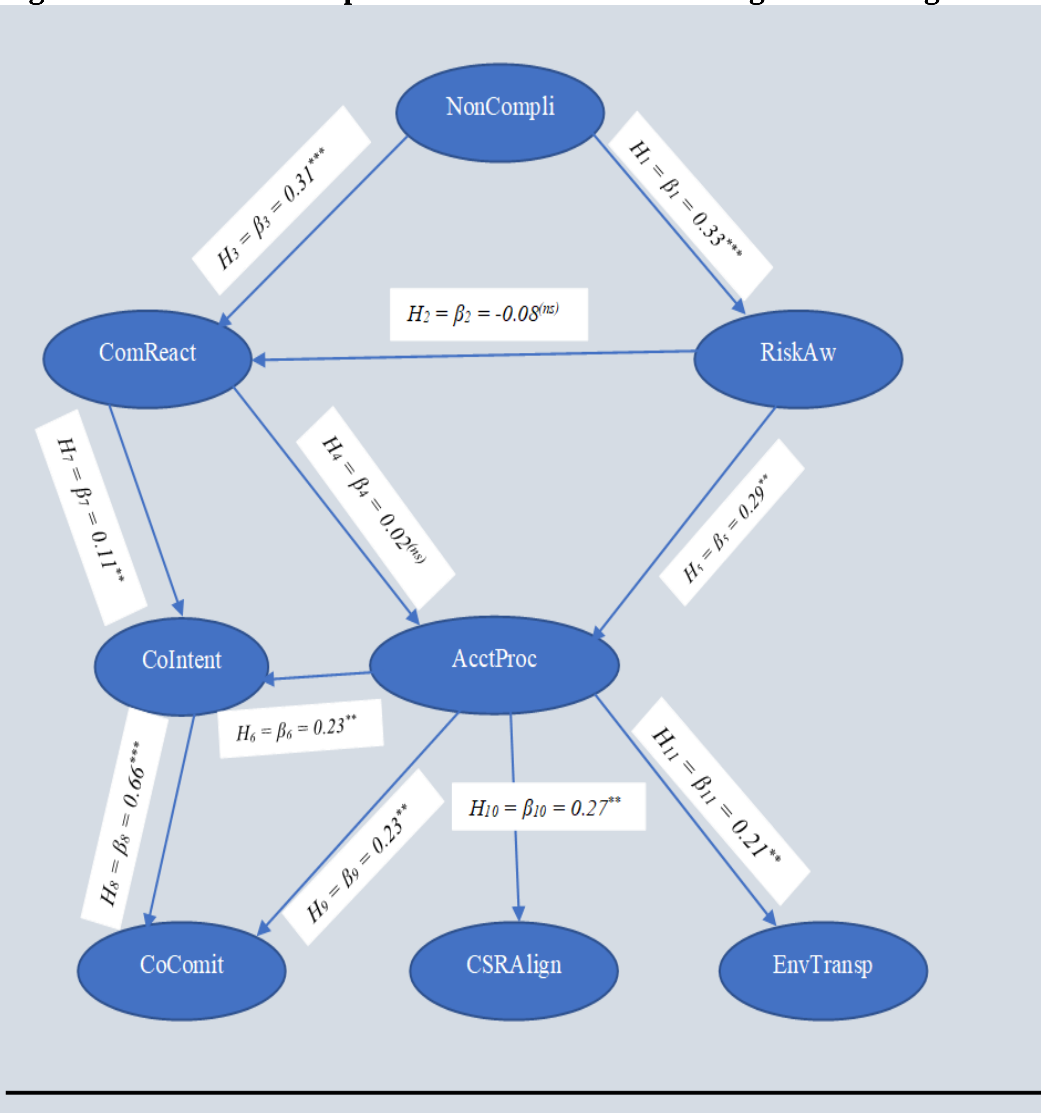
Moreover, the group perceive that *accountability* system and *community reaction* to environmental pollution can wield a significant positive influence on corporate *intention* to improve upon environmental behaviour (β_6 = 0.336, p < 0.05) and (β_7 = 0.422, p < 0.05), respectively (H_6 & H_7; EQ4). These two factors could jointly explain 33.5% variation in the *intention* of mangers of oil firms in Nigeria to improve upon their environmental behaviour. The group also perceives that a good *intention* is a key factor behind corporate *commitment* to environmental sustainability (β_8 = 0.427, p < 0.05); and they do not believe that accountability system can influence corporate *commitment* to sustainability (β_9 = 0.195, p > 0.1; H_8 & H_9; EQ5). The explanatory power of the model is also greater than 10% (R^2 = 28.7%).

The group does not believe that accountability system can influence corporate readiness to *align CSR* with the actual and/or potential impact of business on local environment (β_{10} = 0.173, p > 0.1; H_{10}; EQ6). The explanatory power of the model is weak (R^2 = 3%). The impression is that 97% of possible variation in oil firms' readiness to align CSR initiatives with pollution impacts could be explained by factors that are not included in the equation. These views significantly differ from that of the external stakeholder groups. However, they consider a system of *accountability* as a good driver of *transparency* on environmental information (β_{11} = 0.557, p < 0.01; H_{11}; EQ7). The explanatory power (R^2 = 31%) is also significant.

7.7.2 Perceptions of Environmental Stakeholders from Host Communities/NGOs

Figure 7.21 portrays the graphical standardised output of CNGOs with their related hypotheses. The examination of Table 7.36(a) reveals that CNGOs group perceive that the condition of the physical environment (non-compliance) has high possibility of influencing the awareness of the *environmental risk* ($\beta_1 = 0.328$, $p < 0.01$; H_1; EQ1). The estimated parameter suggests that when the environmental condition is worsened by 10%, the *risk awareness* will rise by 3.28%. The estimate is significant at 1% level. The explanatory power of the model is strong (R^2 = 10.8%). Like OMNCs group, this stakeholder group does not believe that environmental *risk awareness* can significantly influence *communities' negative actions* taken against oil firms in Niger Delta region ($\beta_2 = 0.082$, $p > 0.1$). They rather perceive that *communities' negative actions* towards oil firms is due to deteriorating *condition* of the local environment ($\beta_3 = 0.309$, $p < 0.05$; H_2 & H_3; EQ2). Both, risk awareness and non-compliance could jointly cause 11.9% variation in community reaction (R^2 = 11.9%). This is an indication that the explanatory power of the model is strong.

Figure 7.21: CNGOs Output Structural Model with Regression Weights



ns = Not significant; β = label for the estimated parameter

Table 7.36(a): CNGOs' Unstandardized Regression Path Coefficients

Path					CNGOs		
Hypothesis	From Independent Variable	To	Dependent Variable	β Label	Estimate	S.E.	C.R.
H_1	Non-compliance (NonCompli)	→	Environmental risk awareness (RiskAw)	β_1	.328	.104	**3.305*****
H_2	Environmental risk awareness	→	Community reaction (ComReact)	β_2	.082	.100	.779ns
H_3	Non-Compliance	→	Community reaction	β_3	.309	.112	**2.766****
H_4	Community reaction	→	Environmental accountability (AcctProc)	β_4	.023	.084	.219 ns
H_5	Environmental risk awareness	→	Environmental Accountability	β_5	.288	.078	**2.836****
H_6	Environmental accountability	→	Intention (CoIntent)	β_6	.274	.126	**2.603****
H_7	Community reaction	→	Intention	β_7	.108	.099	1.051 ns

H_8	Intention	→	Commitment	$β_8$	.663	.087	**6.749*****
H_9	Environmental accountability	→	Commitment (CoComit)	$β_9$	.228	.093	**2.607****
H_{10}	Environmental accountability	→	CSR alignment with impact (CSRAlign)	$β_{10}$	.269	.121	**2.362****
H_{11}	Environmental accountability	→	Transparency (EnvTransp)	$β_{11}$	.212	.146	**2.090****

*p < 0.1 = estimated coefficient differs significantly from 0 at 10% level of confidence, and
**p < 0.05 = estimated coefficient differs significantly from 0 at 5% level of confidence.
***p < 0.01 = estimated coefficient differs significantly from 0 at 1% level of confidence.
ns = Not significant

Table 7.36(b): Summary of CNGOs' Coefficient of Determination (R^2)

Latent Construct	Coefficient of Determination R^2
Environmental risk awareness	.108
Community reaction	.119
Environmental accountability procedures	.086
Intention	.091
Transparency	.045
CSR alignment	.072
Commitment	.578

This group too does not see the tendency of *community negative reactions* leading to corporate readiness to adopt environmental *accountability* system ($β_4$ = 0.023, p > 0.1). Environmental *risk awareness* is also considered by this group as a significant factor that can influence oil firms' management decision to adopt accountability procedures ($β_5$ = 0.288, p < 0.05; H_4 & H_5; EQ3). The explanatory power of the model is not strong (R^2 = 8.6%). The sense of *accountability* is also found to influence management *intentional* improvement of environmental behaviour in oil industry ($β_6$ = 0.274, p < 0.05). This is the only group that does not believe that *community reactions* to environmental pollution can motivate oil firms to *intentionally* improve their environmental behaviour ($β_7$ = 0.108, p > 0.1; H_6 & H_7; EQ4). Again, the explanatory power of the model in the context of CNGOs is not strong (R^2 = 9.1%).

The group perceives oil firm managers' *intention* as a significant factor that can lead to corporate *commitment* to environmental sustainability in Niger Delta region ($β_8$ = 0.663, p < 0.01; H_8). The group further perceives that *accountability* has the tendency to wield positive influence on oil firms' *commitment* to environmental sustainability ($β_9$ = 0.228, p < 0.05; H_8 & H_9; EQ5). Moreover, *intention* and *accountability* could jointly explain 57.8% variation in the level of oil firms' *commitment* to environmental sustainability in Nigeria O&G industry.

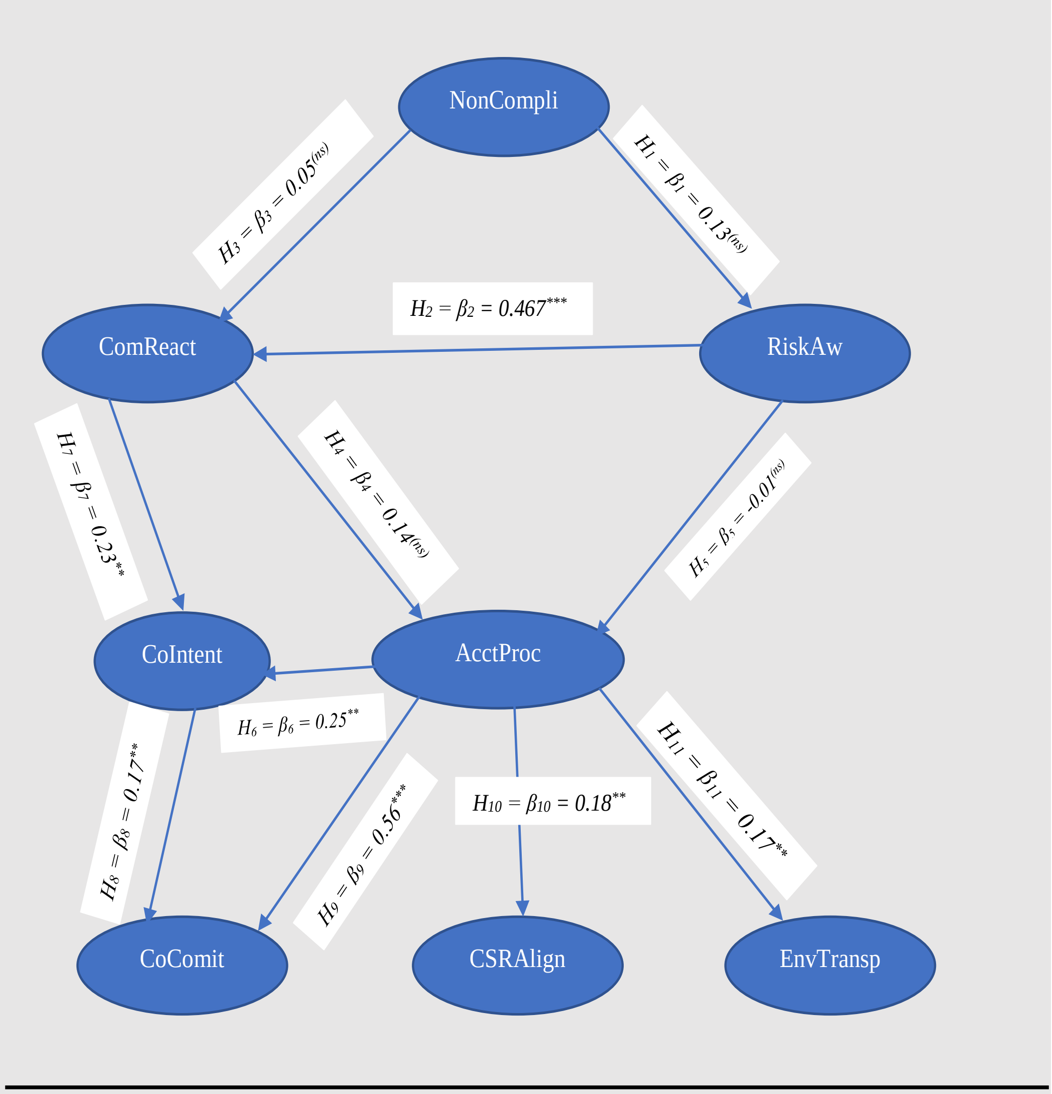
CNGOs group also perceive that accountability procedures could lead to oil firms' *alignment* of CSR initiatives with their business impact on the society ($β_{10}$ = 0.269, p < 0.05; H_{10}; EQ6).

The explanatory power of accountability in this model is less than 10% (R^2 = 7.2%). That is, it cannot explain up to 10% variation in CSR alignment with pollution impact. The explanatory power is weak. The accountability is also viewed by the group as a significant factor that can drive *transparency* on environmental impacts information disclosure (β_{11} = 0.212, $p < 0.05$; H_{11}; EQ6). Again, the explanatory power (R^2 = 4.5%) is also weak.

7.7.3 Perceptions of Environmental Stakeholders from Government Institutions (EXPTs)

Figure 7.22 and Table 7.37(a) present the standardised regression results of EXPTs group in graphical and text form. The results show that this is the only group that does not believe that it is *non-compliance* with environmental standards reflected in environmental condition of Niger Delta that could significantly increase environmental *risk awareness* in the region (β_1 = 0.132, $p > 0.1$; H_1; EQ1). The explanatory power of non-compliance is not strong (R^2 = 1.7%); indicating that 98.3% variation in environmental risk could be attributed to factors other than environmental condition. Again, the only group that views environmental *risk awareness* as a key factor behind *community actions* against polluting oil firms (β_2 = 0.467, $p < 0.01$); while *non-compliance* with environmental requirements yield no significant influence on such *actions* (β_3 = 0.046, $p > 0.1$; H_2 & H_3; EQ2). However, the two factors could jointly cause 22.6% variation in community pressure.

Figure 7.22: EXPTs Output Structural Model with Regression Weights



^{ns} = Not significant; β = label for the estimated parameter

Table 7.37(a): EXPTs' Unstandardized Regression Path Coefficients

Path					EXPTs		
Hypothesis	From Independent Variable	To	Dependent Variable	β Label	Esti mate	S.E.	C.R.
H_1	Non-compliance (NonCompli)	→	Environmental risk awareness (RiskAw)	β_1	.132	.080	1.337^{ns}
H_2	Environmental risk awareness	→	Community reaction (ComReact)	β_2	.467	.116	**4.806^{***}**
H_3	Non-Compliance	→	Community reaction	β_3	.046	.085	$.533^{ns}$
H_4	Community reaction	→	Environmental accountability (AcctProc)	β_4	.140	.115	1.322^{ns}
H_5	Environmental risk awareness	→	Environmental Accountability	β_5	-.006	.142	$-.054^{ns}$
H_6	Environmental accountability	→	Intention (CoIntent)	β_6	.249	.079	**2.735^{**}**
H_7	Community reaction	→	Intention	β_7	.227	.087	**2.452^{**}**
H_8	Intention	→	Commitment	β_8	.170	.088	**2.019^{**}**

H_9	Environmental accountability	→	Commitment (CoComit)	β_9	.558	.078	**6.539********
H_{10}	Environmental accountability	→	CSR alignment with impact (CSRAlign)	β_{10}	.181	.075	**1.978****
H_{11}	Environmental accountability	→	Transparency (EnvTransp)	β_{11}	.167	.081	**1.788***

*p < 0.1 = estimated coefficient differs significantly from 0 at 10% level of confidence, and
**p < 0.05 = estimated coefficient differs significantly from 0 at 5% level of confidence.
***p < 0.01 = estimated coefficient differs significantly from 0 at 1% level of confidence.
^{ns} = Not significant

Table 7.37(b): Summary of EXPTs' Coefficient of Determination (R^2)

Latent Construct	Coefficient of Determination R^2
Environmental risk awareness	.017
Community reaction	.226
Environmental accountability procedures	.019
Intention	.129
Transparency	.028
CSR alignment	.033
Commitment	.394

The results from this group do not give impression that *community reactions* against polluting firms (β_4 = 0.140, p > 0.1) and environmental *risk awareness* (β_5 = -0.054, p > 0.1) can significantly influence corporate adoption of environmental accountability system (H_4 & H_5; EQ3). The explanatory power of the model is not strong (R^2 = 1.9%). The results further indicate that EXPTs group perceives environmental *accountability* (β_6 = 0.249, p < 0.05) and *community reactions* (β_7 = 0.227, p < 0.05) as crucial factors that could drive corporate *intention* to improve environmental behavior (H_6 & H_7; EQ4). The explanatory power of the model is strong (R^2 = 12.9%).

Commitment, on the hand, is influenced jointly by corporate managers' *intention* to improve environmental behavior (β_8 = 0.170, p < 0.05; H_9) and *accountability* system (β_9 = 0.558, p < 0.01; H_9; EQ5). The explanatory power of the two latent variables in the model is strong (R^2 = 39.4%). Like CNGOs, the results from this group also indicate that *accountability* system has the tendency to influence corporate *alignment of CSR* initiatives with business negative impacts on the society (β_{10} = 0.181, p < 0.05; H_{10}; EQ6). The explanatory power of accountability in the model is not strong (R^2 = 3.3%). Finally, there is high possibility of accountability driving corporate environmental information *transparency* (β_{11} = 0.170, p < 0.1; H_{11}; EQ7). Moreover, the explanatory power of accountability is not strong also in the model (R^2 = 2.8%).

7.7.4 Evaluation of Combined External Environmental Stakeholders' (CNGOs & EXPTs) Perceptions

7.7.4.1 External stakeholders' structural model goodness of fit

The model fitness in external stakeholders' sample is better because of its size, (N = 261). As it is in most cases, χ^2 hypothesised to be insignificantly different from zero does not hold. Therefore, the model misfit based on χ^2. However, the data still fit model based on RMSEA of 0.054, and IFI = 0.943, TLI = 0.934, and CFI = 0.942 (Table 7.38 and Appendix 12D). The external stakeholders' group data fit well the model and thus support its being used in testing the hypotheses.

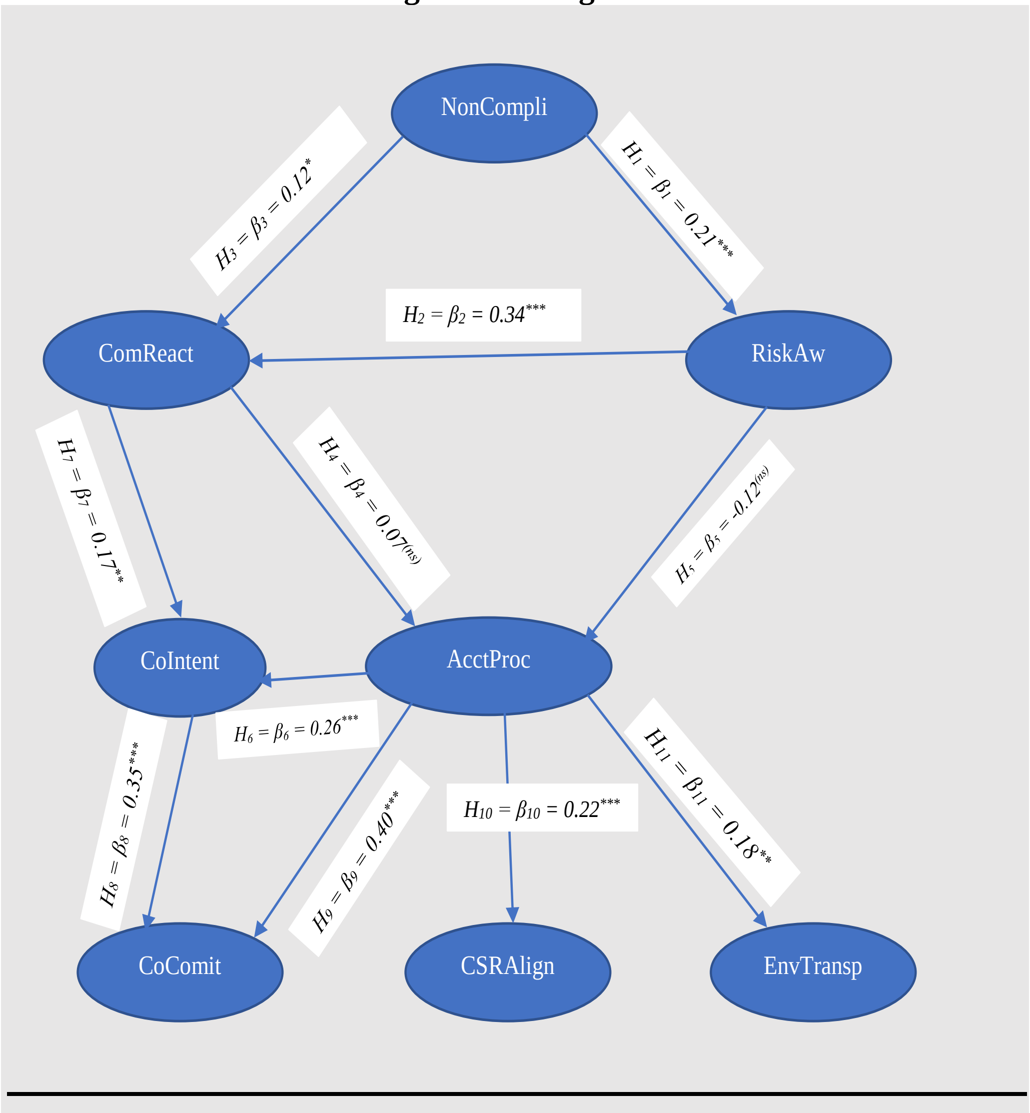
Table 7.38: Structural Model Fit Summary of External Stakeholder (CNGOs & EXPTs) without Modification (N = 261)

Model		χ^2	DF	GFI	RMSEA	IFI	TLI	CFI
Structural		465.683	264	0.879	0.054	0.943	0.934	0.942

7.7.4.2 External environmental stakeholders' (CNGOs & EXPTs) perceptions

Figure 7.23 and Table 7.39(a) present the standardised and unstandardized regression results of external stakeholder groups in graphical and text form (see Appendix 12E). The results show that combined group of external stakeholders believe that it is *non-compliance* with environmental standards reflected in environmental condition that could significantly increase environmental *risk awareness* in the region (β_1 = 0.21, $p < 0.01$; H_1; EQ1). The explanatory power of non-compliance (Table 7.39(b)) is not strong (R^2 = 5.1%). The group also views environmental *risk awareness* as a key factor behind *community actions* against polluting oil firms (β_2 = 0.341, $p < 0.01$); and *non-compliance* with environmental requirements yield a significant influence on such *actions* (β_3 = 0.119, $p < 0.1$; H_2 & H_3; EQ2). Moreover, the two factors could jointly cause 13.4% variation in community pressure. This indicates that the explanatory power of the model is strong.

Figure 7.23: External Stakeholders (CNGOs & EXPTs) Output Model with Standardised Regression Weights



^{ns} = Not significant; β = label for the estimated parameter

Table 7.39(a): External Stakeholders Unstandardized Regression Path Coefficients

Path							
Hypothesis	From Independent Variable	To	Dependent Variable	β Label	Estimate	S.E.	C.R.
H_1	Non-compliance (NonCompli)	→	Environmental risk awareness (RiskAw)	β_1	.210	.065	**3.208*** **
H_2	Environmental risk awareness	→	Community reaction (ComReact)	β_2	.341	.075	**4.516*** **
H_3	Non-Compliance	→	Community reaction	β_3	.119	.069	**1.734***
H_4	Community reaction	→	Environmental accountability (AcctProc)	β_4	.068	.072	.942$^{(ns)}$
H_5	Environmental risk awareness	→	Environmental Accountability	β_5	.119	.077	1.547$^{(ns)}$
H_6	Environmental accountability	→	Intention (CoIntent)	β_6	.260	.068	**3.829*** **
H_7	Community reaction	→	Intention	β_7	.171	.066	**2.579** **

H_8	Intention	→	Commitment	β_8	.350	.065	**5.406*** **
H_9	Environmental accountability	→	Commitment (CoComit)	β_9	.398	.062	**6.378*** **
H_{10}	Environmental accountability	→	CSR alignment with impact (CSRAlign)	β_{10}	.215	.065	**3.282*** **
H_{11}	Environmental accountability	→	Transparency (EnvTransp)	β_{11}	.183	.074	2.490**

*p < 0.1 = estimated coefficient differs significantly from 0 at 10% level of confidence, and
**p < 0.05 = estimated coefficient differs significantly from 0 at 5% level of confidence.
***p < 0.01 = estimated coefficient differs significantly from 0 at 1% level of confidence.
ns = Not significant

Table 7.39(b): Summary of External Stakeholders' Coefficient of Determination (R^2)

Latent Construct	Coefficient of Determination R^2
Environmental risk awareness	.051
Community reaction	.134
Environmental accountability procedures	.024
Intention	.111
Transparency	.029
CSR alignment	.054
Commitment	.378

The results from the external stakeholders do not give any impression that *community reactions* against polluting firms (β_4 = 0.068, p > 0.1) and environmental *risk awareness* (β_5 = 0.119, p > 0.1) can significantly influence corporate adoption of environmental accountability procedures (H_4 & H_5; EQ3). The explanatory power of the model is not strong (R^2 = 2.4%). The results further indicate that external stakeholder group perceives environmental *accountability* (β_6 = 0.260, p < 0.01) and *community reactions* (β_7 = 0.171, p < 0.05) as crucial factors that could drive corporate *intention* to improve upon environmental performance (H_6 & H_7; EQ4). The explanatory power of the model is strong (R^2 = 11.1%).

Commitment, on the hand, is influenced jointly by corporate managers' *intention* to improve environmental behavior (β_8 = 0.350, p < 0.01; H_8) and *accountability* system (β_9 = 0.398, p < 0.01; H_9; EQ5). The explanatory power of the two latent variables in the model is strong (R^2 = 37.8%). The results from the external stakeholders also indicate that *accountability* system has the tendency to influence corporate *alignment of CSR* initiatives with business negative impacts on the society (β_{10} = 0.215, p < 0.01; H_{10}; EQ6). The explanatory power of accountability in the model is not strong (R^2 = 2.9%). Finally, there is high possibility of accountability driving corporate environmental information *transparency* (β_{11} = 0.183, p < 0.05; H_{11}; EQ7). Moreover, the explanatory power of accountability is not strong also in the model (R^2 = 5.4%).

7.7.5 Test of Hypotheses 1 – 11 with Group-Specific Results

Table 7.40 presents the summary of the hypotheses supported and those not supported by respective groups and combined external stakeholder group. The detailed group-specific results used in testing the hypotheses are presented in section 7.7.1, 7.7.2, 7.7.3, 7.7.4 for OMNCs, CNGOs, EXPTs and external stakeholder group, respectively. The hypotheses are tested sequentially to highlight the differences and similarities in group perceptions.

Table 7.40: Summary of Hypotheses Supported/Not Supported by Specific Group

	Hypotheses	OMNCs (Remarks)	CNGOs (Remarks)	EXPTs (Remarks)	External stakeholders (CNGOs & EXPTs) (Remarks)
H_1	There is a positive relationship between ***non-compliance*** with environmental regulations (reflected in the extant environmental condition) and ***environmental risks awareness***	supported	supported	Not supported	Supported
H_2	***Environmental risk awareness*** will positively influence ***community negative reactions*** towards environmental polluting firms	Not supported	Not supported	Supported	Supported
H_3	There is a positive relationship between ***non-compliance*** with environmental regulations (reflected in the extant environmental condition) and ***community reaction*** towards polluting firms	Supported	Supported	Not supported	Supported
H_4	The ***community reaction*** towards environmental polluting firms will positively influence corporate readiness to adopt a system of ***accountability***	Not supported	Not supported	Not supported	Not supported
H_5	***Environmental risk awareness*** will positively influence corporate readiness to adopt a system of environmental ***accountability***	Supported	Supported	Not supported	Not supported
H_6	The system of environmental ***accountability*** will positively influence corporate managers' ***intention*** to voluntarily improve environmental behaviour	Supported	Supported	Supported	Supported
H_7	The ***community reaction*** towards environmental polluting firms will positively influence corporate managers' ***intention*** to improve environmental behaviour	Supported	Not supported	Supported	Supported
H_8	A positive relationship will be observed between corporate managers' ***intention*** to voluntarily improve environmental behaviour and actual ***commitment*** to environmental sustainability	Supported	Supported	Supported	Supported
H_9	Environmental ***accountability*** procedure will lead to corporate ***commitment*** to environmental sustainability	Not supported	Supported	Supported	Supported

H_{10}	Environmental ***accountability*** procedure will lead to corporate readiness to ***align CSR*** initiatives with business pollution impacts	Not supported	Supported	Supported	Supported
H_{11}	Environmental ***accountability*** procedure will enhance ***transparency*** on environmental impact information disclosure	Supported	Supported	Supported	Supported

H_1 There is a positive relationship between ***non-compliance*** with environmental regulations (reflected in the extant environmental condition) and ***environmental risks awareness.***

The results from environmental stakeholder groups in OMNCs and CNGOs support this hypothesis but that of EXPTs group do not support it. Therefore, the hypothesis holds in OMNCs and CNGOs, while it is rejected in EXPTs. The indication is that environmental stakeholder perceptions on the relationship of non-compliance reflected in extant environmental condition with environmental risk awareness are not similar. However, the results of combined external stakeholders support the hypothesis.

H_2 ***Environmental risk awareness*** will positively influence ***community negative reactions*** towards environmental polluting firms.

This hypothesis does not hold for respective groups. The independent data from EXPTs group support this hypothesis, while OMNCs and CNGOs' data do not. Again, the results of external stakeholder support the hypothesis.

H_3 There is a positive relationship between ***non-compliance*** with environmental regulations (reflected in the extant environmental condition) and ***community reaction*** towards polluting firms.

Stakeholders also differ on the relationship of firms' non-compliance with environmental requirements and local communities' reaction towards environmental polluting firms. The data from OMNCs and CNGOs support this hypothesis, while that of EXPTs group do not. Apparently, all the groups do not agree that it is the observable environmental condition in Niger Delta that prompts coordinated actions taken by the natives and NGOs against oil companies. However, the combined data of the external stakeholders support the hypothesis.

H_4 The ***community reaction*** towards environmental polluting firms will positively influence corporate readiness to adopt a system of ***accountability.***

The hypothesis does not hold in any of the three groups and combined external stakeholders. This is the only hypothesis that is not supported by any of the groups. Evidently, production facilities vandalization by the youths, blocking of the access to facilities, protests, and so on, would not likely motivate oil companies to adopt accountability strategy. This is the perception of all the environmental stakeholders understudy.

H_5 ***Environmental risk awareness*** will positively influence corporate readiness to adopt a system of environmental ***accountability.***

This hypothesis is not supported by EXPTs group; however, independent data of OMNCs and CNGOs support this hypothesis. Therefore, stakeholders also differ on what could motivate oil firms to adopt accountability procedures in their environmental management system. However, when the external stakeholder data are merged, the results do not support the hypothesis.

H_6 The system of environmental ***accountability*** will positively influence corporate managers' ***intention*** to voluntarily improve environmental behaviour.

This hypothesis is supported by all the groups, including combined external stakeholders (see Table 7.40). The sense of integration of accountability system into CSR policy and practice is perceived by all groups as a factor that could drive oil firms' intention to develop strategy to improve environmental performance.

H_7 C***ommunity reaction*** towards environmental polluting firms will positively influence corporate managers' ***intention*** to improve environmental behaviour.

Independent data of two groups of the stakeholders, OMNCs and EXPTs, support this hypothesis. The perception of these groups is that the voice of the local communities/NGOs has a way of motivating oil firms to voluntarily develop strategies to address the environmental issues in Niger Delta region. However, CNGOs themselves do not support this hypothesis. CNGOs unique position is contrary to the expectation of the researcher because they are the most affected stakeholders. However, when they are merged with EXPTs, the combined data support the hypothesis.

H_8 A positive relationship will be observed between corporate managers' ***intention*** to voluntarily improve environmental behaviour and actual ***commitment*** to environmental sustainability.

Again, all groups, including combined external stakeholders, support this hypothesis. The indication is that as intention rises so rises the tendency to be voluntarily committed to environmental issues. The actions are taken voluntarily, though some psychological thought over some factors as in H7 and H8 could drive such intention.

H_9 Environmental ***accountability*** procedure will lead to corporate ***commitment*** to environmental sustainability.

Stakeholders also differ on the tendency of accountability procedures to lead to oil firms' commitment to environmental sustainability. The stakeholders from oil companies do not support the hypothesis, while those from CNGOs and EXPTs support it independently and as combined external stakeholder group.

H_{10} Environmental ***accountability*** procedure will lead to corporate readiness to ***align CSR*** initiatives with business pollution impacts.

The stakeholders also differ on the possibility of environmental accountability strategy leading to oil firms' use of CSR initiative to mitigate the social and environmental impacts of their operations on the society. While external stakeholders (CNGOs and EXPTs) support it independently and as a combined group, OMNCs' group does not support it.

H_{11} Environmental ***accountability*** procedures will enhance ***transparency*** on environmental impact information disclosure.

Finally, all groups, including combined external stakeholders, support this hypothesis. The indication is that environmental accountability procedures has a way of enhancing corporate transparency on environmental information.

7.8 Chapter Summary

The chapter started with demographic analysis of respondents from respective stakeholder groups. Analysis of CES factors from a subset of data from EXPTs followed. From the perspectives of EXPTs, factors conceptualised in literature were analysed into eight empirical latent constructs using common factor method of exploratory factor analysis. This aspect was necessary because these factors, in a holistic form, and the measurement instrument were not found in literature (Floyd & Widaman, 1995). Multi-group invariance technique was used to evaluate the similarities and differences of the measurement instrument across groups. The analysis discloses that there is no significant different in the way stakeholders understand the measurement instrument. Based on this, structural equivalence was evaluated across the groups. The analysis indicates a significant different in the perceptions of stakeholders on the theoretical relationships of the latent constructs. Consequently, a detailed analysis of their similarities and differences were carried out based on the significant of estimated parameters in respective groups. To understand the united perceptions of the external stakeholders (CNGOs and EXPTs) their combined data were analysed. The results were used in testing the hypotheses on group basis. An examination of the results and the tested hypotheses reveal that all groups, including combined external stakeholders, hold similar views on only four (H_4, H_6, H_8, *and* H_{11}) of the eleven hypothesised relationships.

CHAPTER 8

DISCUSSION OF RESEARCH FINDINGS

8.1 Introduction

In the previous chapter the results of the study and related interpretations were presented. In this chapter, the main findings of the study and their support to the extant literature and theories are discussed. The findings are discussed as they are related to the objectives of the study. More importantly, each group's perspectives in terms of the hypothesised relationships are clarified as much as possible. The remaining sections are as follows:

- Section 8.2 discusses the identified CES factors.
- The similarities or differences in respective groups' perceptions on hypothesised relationships are discussed in Section 8.3.
- In Section 8.4, factors behind corporate tendency to adopt environmental accountability procedures are discussed;
- While factors behind corporate intentional commitment to sustainability are the subjects of Section 8.5.
- In section 8.6 the role of APCSR in enhancing CES practices is discussed.
- The chapter summary follows in the last section.

8.2 Corporate Environmental Sustainability (CES) Factors – Main Findings Relating to Objective 1

The first objective of this thesis was to identify and assess what expert group of external stakeholders believe to be the CES factors in the context of O&G industry in Nigeria. The exploratory factor analysis (EFA) technique using was employed in this aspect of the study. From the analysis in section 7.3.2 of chapter 7, eight CES factors were identified. These factors were extracted sequentially based on the percentage of the variation each of them could explain.

The "Community Reaction to Environmental Condition", which is responsible for 27.15% of the variance in environmental sustainability model, is perceived by the expert group of external stakeholders as the first key factor. They see the attitude of communities towards environmental degradation as a crucial CES factor. This factor could be viewed in the light of what Frooman (1999) considers as stakeholder influence. This finding extends the work of Wakefield *et al.* (2001) by identifying the underlying dimensions of community reaction (i.e., facilities vandalization, access denial, struggle for resource control and confrontational protest) in the context of Nigeria O&G industry. This finding is both alarming and powerful in that it shows, in the context of developing countries, the means which communities use in drawing attention of oil MNCs, government and international communities to the environmental situation in the region.

The second, which is "Alignment of CSR Initiatives with Business Impacts", has eigenvalue of 3.63 and is responsible for 12.09% of the variance in model. The findings provide empirical evidence to the conceptual argument that CSR ought to be geared towards mitigating the social problems created or related to firms' business activities (Wood, 1991a). Alignment establishes the parameter for evaluation of the CSR policies and how such policies better the life of the affected host communities. It implies that CSR initiatives focus on ameliorating or reducing the negative impact of business on the environment (Welford *et al.*, 2008). To be effective, therefore, experts perceive that corporations' CSR policies should aim at mitigating adverse social impacts of business on society, deter future pollution and put in place business impact mitigation evaluation process.

The third is "Commitment to Environmental Issues". This factor explains 11.43% of variance in sustainability model. The findings support the argument of Hastings (1999) and Gonzalez-Benito & Gonzalez-Benito (2005) that environmental commitment is an important sustainability factor. However, the present study extends their work by providing what expert group of stakeholders in Nigeria O&G industry perceive to be the underlying indicators of the kind of *commitment* environmental stakeholders would expect from oil firms. These are environmental proactivity, beyond requirements performance, compensating for undue pollution, and timely response to pollution incident. These are the embedded indicators of improved CES practices expected by the stakeholders in O&G industry

The fourth factor the experts perceive as relevant in Nigeria O&G industry is "Environmental Risks Awareness". It explains 8.02% of variance in sustainability model. Again, the findings extend the work of Gadenne *et al.* (2009) by highlighting what constitutes immediate environmental risks in the context of oil multinationals in developing countries. The experts believe that the unattended oil spills on land and rivers cannot be hidden and their impacts are observable. The visibility of oil pollution, especially to the subsistence farmers and fishermen, can create awareness even among the less educated.

"Transparency on Business Environmental Impacts", which explains 7.22% of the variance, is considered as the fifth factor. According to experts, environmental stakeholders expect transparency from oil firms. The findings support the conceptual argument that a corporation that discloses its social/environmental impacts information to the public and clears every ambiguity by inviting external stakeholders to scrutinise their total quality environmental management system (Hart, 1995) will likely prevent environmental pollution proactively (Henriques & Sadorsky, 1999). The findings provide embedded components of transparency in the context of oil industry in Nigeria such as unambiguous environmental impact assessment reports and firms' regards to *social license to operate* granted by local communities.

The sixth factor is "Accountability System of Environmental Management". It explains 5.79% of variance in sustainability model. The main indicators of this factor from experts' perspective are stakeholder engagement in standards setting, conducting of environmental audit, collaborative environmental monitoring and sanctions against unacceptable environmental behaviour. The factor loadings of these items are significant at $p = 0.000$. Each of the indicator contributes more than 50% shared variance in the factor. In other words, the experts group of environmental stakeholders identifies a system of accountability as one of the factor. It causes more than 50% of the shared variance in each of the four variables that cluster together.

The seventh factor, which explains 5.22% variance in the model, is "Non-Compliance with Sustainability Requirements" with underlying dimensions of visibility of non-compliance, grievances for environmental negligence, and lack of environmental accountability. This is an observed outcome of the past or current corporate environmental behaviour. Generally, the past outcome of corporate environmental behaviour could indicate compliance or non-compliance with environmental standards. However, based on the environmental situation in Niger Delta (see Section 2.6.3) non-compliance is examined. In the perception of the experts, non-compliance is visible to the communities and it exposes environmental behaviour of oil companies. As the study of Bowen (2000) suggests, it has high propensity to trigger actions from the environmental stakeholders (companies, communities/NGOs, and State). The findings provide the underlying elements of non-compliance in the context of O&G industry to support the ongoing argument that non-performance of environmental obligation grieves local communities and could lead to series of civil issues that often degenerate into conflicts between the natives and the polluting firms (Boele *et al* 2001; Wakefield *et al*, 2001; Lozano, 2015).

The eighth factor, which explains 4.01% of the variance, is corporate "Intentional Improvement in Environmental Behaviour" as a response to perceived external threats. The belief of experts is that corporate managers' perceptions about potential external threats such as the pressure from local communities, organised civil society movements and NGOs are core underlying elements of intention to improve environmental behaviour. The study provides empirical evidence to support the theory of reasoned action, which link voluntary action to intention influenced by certain exogenous factors (Fishbein & Ajzen, 2010).

8.3 The Link of Non-Compliance with Environmental Standards to Pollution Risk Awareness and Community Reaction – Main Findings Relating to Objective 2

This study also examined the respective groups perceptions on whether corporate non-compliance with environmental obligations could increase pollution risk awareness and thus lead to local communities' negative reactions towards oil companies. In the perception of OMNCs and CNGOs from the result in Table 3.35(a) and 7.36(b), respectively, there is evidence of a strong positive relationship of environmental risk awareness with corporate non-compliance with the required environmental standards in Niger Delta *(H_1)*. The independent data from EXPTs group indicate that, though the relationship is positive, it is not significant (see Table 7.37(a)).

The perceptions differ because the traditional booster of awareness is mass media (Henriques & Sadorsky, 1999; Lozano, 2015) not the observed physical environmental condition. EXPTs seem to hold this perception; while the OMNCs and CNGOs give impression that physical condition of the environment can create awareness. Of course, mass media awareness is the ideal means of information dissemination among the literates. However, in case of oil spill, the subsistence farmers and fishermen that observe the flood of oil on their farmlands and rivers need not be told, through the media, the devastating effects of environmental pollution. The natives live with the authentic experience. It is interesting to observe that the combined data of the external stakeholders (CNGOs and EXPTs) supports the respective position of OMNCs and CNGOs. This implies that most of the respondents agree that environmental condition can increase the level of risk awareness.

Stakeholder groups also differ on postulated relationship of environmental risk awareness and community reactions towards oil firms *(H_2)*. To the EXPTs, it is pollution risks awareness that drives stakeholders' reaction towards polluting firms in Niger Delta. The combined data of the external stakeholders also support this opinion. Evidently, the perspectives of the external stakeholder group support Gadenne *et al.* (2009) findings which link awareness of environmental risks of business to strategic actions taken by the environmental stakeholders towards pushing firms to improve environmental performance. Those in OMNCs group do not share in this opinion. Although they agree to existence of positive relationship; however, such relationship is considered insignificant.

The groups also differ on how non-compliance with environmental requirements relates with the reaction of the local communities towards polluting oil firms *(H_3)*. While OMNCs and CNGOs perceive that non-compliance positively and significantly influence community negative reactions, the EXPTs group does not consider the positive relationship as significant one (see Table 7.40). However, they say the same thing when merged with CNGOs. This shows that most of the study participants hold this perception. The findings echo Frooman (1999) views that powerless stakeholders often resort to actions that could drive their demands from corporations. The findings provide an empirical evidence that supports the argument that Niger Delta conflicts with oil multinationals, to a substantial extent, is due to decades of environmental degradation in the region (Donaldson & Dunfee, 1999; Edoho, 2008; Boele *et al* 2001a).

8.4 Factors behind Corporate Tendency to Implement Accountability Procedures – Main Findings Relating to Objective 3

The theory of accountability makes two broad assumptions about when the need for accountability arises (Williams, 1987; Pallot, 1991) and the outcome of accountability (Burritt & Welch, 1997; Jos & Tompkins, 2004). Accountability as a middle level theory (Tetlock, 1999) is assumed to arise where unfavourable condition exists or is anticipated in a relationship (Folger & Cropanzano, 2001). For instance, bad condition of environment shows corporate non-compliance with environmental standards (Roome, 1992). The situation is unfavourable to stakeholders that expected more than minimum requirements compliant. Unfavourable environmental condition is considered to exist in Niger Delta (see Section 2.6.3, Chapter 2) and OMNCs, CNGOs and combined external stakeholder group perceive that it relates with environmental risk awareness and community reactions towards oil firms. The third objective was to examine the perceptions of the stakeholders on factors that could trigger the need for environmental accountability in Nigeria O&G industry.

From the results in Section 7.7.1 and 7.7.2, OMNCs and CNGOs again perceive that environmental risk awareness has the tendency to trigger the need for a system of accountability in O&G industry *(H_5)*. This supports the theoretical perspectives of accountability as a middle level theory that arises where people are aware of or anticipate an existence of unfavourable condition in a relationship (Tetlock, 1999; Folger & Cropanzano, 2001). The indication is that as the risk awareness about unfair environmental condition increases the demand for oil MNCs to adopt accountability perspective of CSR (APCSR) also increase. EXPTs group does not believe that awareness of the environmental risk could motivate corporate managers to adopt APCSR. When they are merged with CNGOs, their opinion still dominates the results.

Moreover, all the groups do not believe that negative reactions from communities can lead to oil companies' readiness to adopt a system of accountability *(H_4)*. It is evidence that negative actions such as production facilities vandalizations by the youths of Niger Delta, access denial to production sites and confrontational behaviour cannot yield positive results. The results do not support the accountability and stakeholder theories. Theoretically, stakeholders exert pressure for accountability when they are not favoured by corporate behaviour (Gray *et al.,* 2014). Although all groups agree to existence of positive relationship of communities' reaction with need for accountability, the influence is not significant. This could be due to past experience in the region where protests (e,g., the protest organised by Ken Saro-Wiwa on January 4, 1993) have not really made oil MNCs to operate with the sense of environmental accountability.

8.5 Factors behind Voluntary Commitment to ES in Developing Countries: – Main Findings Relating to Objective 4

Intention, as mentioned earlier, precedes voluntary actions according to Fishbein & Ajzen (2010). The indicators of intention to improve environmental performance are displayed in Table 7.8 of Chapter 7. The indicators provide the reason for corporate intentional or voluntary improvement in environmental performance. Again, intention is a middle level construct; implying it is triggered by some exogenous variables, and it also drives other variables. The first question revolves around *factors that can influence intention*; while the second is about *factors intention can influence*.

The first underlying assumption of theory of reasoned action is that human social behaviour follows reasonably and often spontaneously from the information or beliefs people possess about the behaviour under consideration (Fishbein & Ajzen, 2010). That is, a form of external threat from people over unacceptable behaviour. The second assumption is about the *internalised dialogue* people often engage themselves in when deciding to take certain actions which shall be judged by others (Tetlock, 1999). That is, trying to anticipate answers if called for accountability. Therefore, theory of accountability has largely been one of explaining reactions to anticipated reviews' (Frink & Klimoski, 2004).

The fourth objective of this study was to investigate factors behind corporate voluntary improvement in environmental performance, particularly in the absence of strong formal regulatory system. The groups differ on the impact of the reaction of local communities on the intention of managers to improve environmental performance *(H_7)*. In respective group results, OMNCs and EXPTs support this hypothesis, but CNGOs group does not. When CNGOs are merged with EXPTs to form external stakeholder group, they all agree. Therefore, the perception of most of environmental stakeholders is that community reaction has the tendency to raise managers' intention to gear CSR policy towards contributing to sustainability. The impression is that theory of reasoned action (Fishbein & Ajzen, 2010) can explain the environmental behaviour of corporate managers in the face of pressure from the affected stakeholders.

All groups support the hypothesis that existence of a system of environmental accountability in O&G industry can likely influence corporate managers' intention to improve environmental behaviour *(H_6)*. It is necessary to point out that oil companies in this category do not adopt a system of accountability in terms of engaging external stakeholders in setting satisfactory environmental standards, involving them in compliance assessment, monitoring and enforceability; they improve performance to avert the need for accountability system. The findings, from internal and external stakeholder perspectives, provide evidence that the theory of accountability can explain corporate managers' intention to improve environmental performance, such intention is developed from the internalised anticipated environmental performance reviews by important stakeholders (Tetlock, 1999; Frink & Klimoski, 2004).

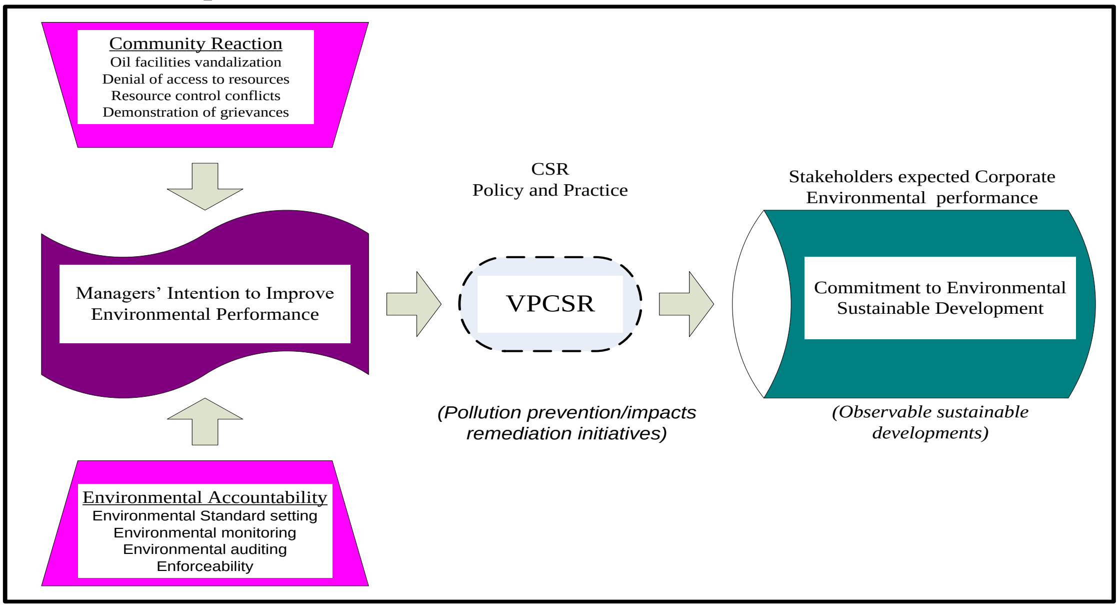
As Fishbein & Ajzen (2010) emphasise, such intention is determined by psychological factors in the belief system of the managers and it is considered as the major driver of voluntary actions. Therefore, external informal regulatory pressure (Roome, 1992; Henriques & Sardorsky, 1999) from local communities and NGOs along with the thought of accountability could directly *trigger intention* of managers of oil firms to gear their CSR policy towards reducing environmental problems in Niger Delta. The increase in the *intention* depends on the power of the informal regulatory pressure from stakeholders and the robust system of environmental accountaibility in the industry.

Interestingly, the perceptions of all groups on the relationship of corporate intention to voluntarily improve environmental performance and actual commitment to environmental sustainability *(H_8)* is similar. The findings suggest that the *intention* can metamorphose into CSR actions that could lead to environmental sustainability in the region. In other words, all the groups perceive that where there is *strong exogenous factor* that accelerates *intention*, the intention will likely metamorphose into actual managerial decisions to improve environmental performance. The emphasis is on the factor that triggers intermediate factor, which is intention. Therefore, the decision to improve environmental performance depends directly on intention and indirectly on exogenous factors that could trigger the intention.

The relationship of such factors with intention and how intention metamorphoses through CSR policies and practices to produce the expected environmental performance is captured in Figure 8.1. From the perspectives of all stakeholders, the external factors such as community reaction and accountability procedures (Figure 8.1), exert significant pressure on the intention of corporate managers to improve the environmental performance. The potentials of these two factors are important. The psychological thought of their impacts is what drives managers' intention to change environmental behaviour. In the perception of the stakeholders, intention leads to development of environmental oriented CSR policies, which is manifested in commitment to environmental sustainability.

These findings are in line with Higgins (1999) 'aboutness principle'. The aboutness principle assumes that 'when a response occurs, it is about something' (Higgins, 1999, p37). The response, for instance, could be improving environmental performance to avoid formal and/or informal regulatory pressure. These findings provide a fresh insight on factors behind voluntary perspective of CSR (VPCSR). The so called VPCSR contribution to sustainability succeed more when there are intention driving factors. Unfortunately, CSR researchers have debated in favour of voluntarism and they ignored the factors behind *intention* which directly influence the VPCSR. Of course, Omoteso & Yusuf (2017) argue that voluntarism is inadequate in driving MNCs' responsible operations in developing countries. This is true because of lack of factors behind voluntarism.

Figure 8.1: Model of Corporate Voluntary Environmental Performance: The Perspectives of all Stakeholders



Source: Developed by the researcher from the study results

To some extent, lack of strong factors that could impact on the *intention* of the managers of oil firms in Nigeria to give serious attention to social and environmental problems generated by their operations has brought the region into the present environmental condition (see Figures 2.4 to 2.6, Section 2.6.3.2, Chapter 2). The findings further support the work of Omoteso & Yusuf (2017) which suggest establishment of an international legal mechanism for securing accountability of MNCs in the context of developing counties. It is such accountability mechanism that can influence corporate intention to improve upon environmental behaviour. These findings point to the need to rethink the principle of voluntary CSR in the context of developing countries as suggested in Jeremiah (In Press). It also signals the need to informal regulatory pressure for a system of accountability as this would wake up the polluting oil firms and deter others from polluting the region.

8.6 Accountability as CES Driver – Main Findings Relating to Objective 5

The main findings on the role of accountability in driving CSR contribution to environmental sustainability are discussed in this section. In this study stakeholders are categorised into internal and external. Internal are the organisational stakeholders, which are the employees (Henriques & Sadorsky, 1999) in departments in oil firms in Nigeria that interface with communities on social and environmental matters (OMNCs) on environmental matters. The external are community, NGOs, academics and regulatory stakeholders.

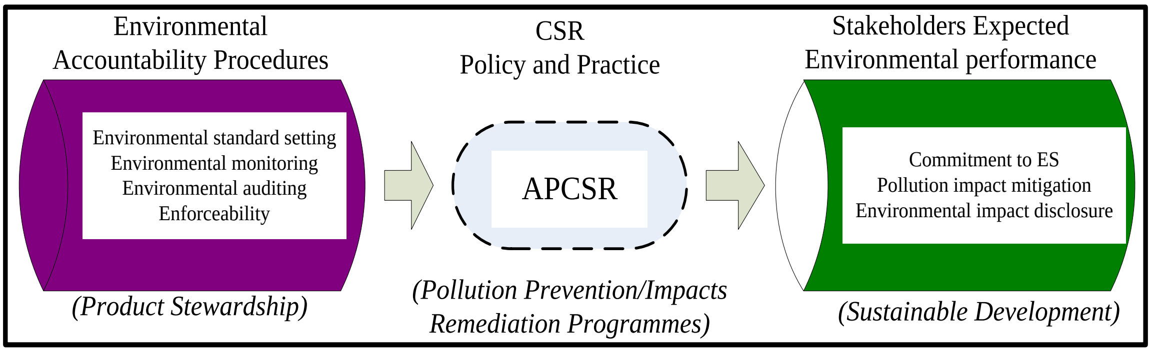
On core issues of what accountability procedures could accomplish there is a clear divide between internal and external stakeholders' perceptions. External stakeholders perceive that where there are sound accountability procedures oil companies will respond in by environmental performance that meets stakeholder expectations. There will be responsible and sustainable operations, characterised by transparency *(H_{11})*, commitment to environmental sustainability *(H_9)*, and CSR programmes that minimise, mitigate or compensate for negative environmental impacts *(H_{10})*. In contrast, internal stakeholder (OMNCs) group does not consider the influence of accountability procedures on commitment and CSR alignment as significant, though it is positive. They only expect oil firms to respond to accountability procedures by being transparent on environmental impact information.

Viewing the results closely, personal interests seem to dominate the perceptions of respective environmental stakeholder groups. Internal stakeholders stick to VPCSR and are not in support of accountability when it concerns commitment and alignment of CSR initiatives with *ex post* pollution. To them this would mean more engagement with the external stakeholders in their operations, which the employees (internal stakeholder) that interface with external stakeholders would not want to. However, external stakeholders prefer APCSR especially in a situation of established unfavourable condition. External stakeholders' perceptions fit Frederick *et al*, (1992) definition of CSR, which is a principle stating that corporations should be accountable for the effects of any of their actions on the community and environment.

As mentioned earlier, the second broad assumption of the theory of accountability is about its outcome (Burritt & Welch, 1997; Jos & Tompkins, 2004). Specifically, as a middle level theory, theory of accountability assumes that the felt responsibility to required standards leads to behaviour through expected performance (Erdogan, 2004). In other words, if oil firms feel that they are responsible for oil spills, gas flare and other oil related environmental degradation activities in the Niger Delta region, it is accountability procedure that will motivate them to brace up to address those obligations through well-tailored CSR programmes. Such programmes will yield significant outcomes in terms of meeting stakeholders expected sustainability. Therefore, the expectation of the outcome of accountability is improved environmental performance characterised by commitment, CSR alignment, and transparency on environmental impact information.

The APCSR provides further insight on Hart's (1995) natural-resource-based views of firms. Figure 8.2, displays the perspectives of the external stakeholders on the relationship of accountability procedures with stakeholders expected corporate environmental performance. It is a system of environmental accountability that could make corporate product stewardship emphasised in Hart (1995) a reality. From the underlying indicators of accountability, it is evident that APCSR puts social/environmental concern of the stakeholders into the mainstream business plan from onset. This will enable interested parties to assess firm's performance in relation to society's requirements and expectations (Elkington, 1998). The restoration of both the natural environment and the *status quo* of the stakeholders affected, in case of accidental significant environmental damages, are well planned. These corporate responsibilities are indispensable part of a good accountability system because the natural environment and the stakeholders are valued at all stages of production and distribution.

Figure 8.2: A Conceptual Model of Accountability as Driver of CES: The Perspectives of the External Stakeholders



Source: Developed by the researcher from the study results

Evidently, accountability becomes central because it shows the way companies can manage complex multi-stakeholders' values, learn how to build relationship and partnership, and redefine the "license to operate" with keen attention on what legitimises one's roles and actions (Lozano, 2004). CSR being a veritable tool for managing this complex relationship with society will be based on accountability procedures (APCSR) where there are cases of environmental negligence or based on voluntarism (VPCSR) where business does no harm to local environment. Figure 8.2 also shows the expected outcome, in terms of environmental sustainable development, where accountability to constituents of stakeholders is demonstrated in the way corporations discharge everyday activity that connects them to wider society of stakeholders.

8.7 Chapter Summary

In this chapter, 30 CES observed indicators were reduced to manageable 8 CES latent factors. Based on the perception of a subset of EXPTs, "Community Reaction to Environmental Condition" is a crucial factor in the context of Nigeria O&G industry. The manifest variables: vandalization, access denial, struggle for resource control and protest are considered significant variables by environmental experts. The perceptions of respective groups on structural relationships of the 8 latent factors are not similar. Most of the stakeholders perceive that non-compliance with stakeholders' environmental requirements could increase pollution risk awareness and lead to community reactions against polluting firms. This tells why oil MNCs in Niger Delta need to meet environmental requirements of the stakeholders.

Although stakeholders differ on what could trigger the need for accountability, there is indication from the perception of OMNCs and CNGOs that unfavourable environmental condition can influence the level of stakeholders' awareness of environmental risk directly, and need for APCSR indirectly. The findings also show that a sound system of accountability and stakeholders regulatory pressure have the tendency to influence corporate managers' intention to improve environmental performance and that such intention could lead to adoption of VPCSR. In other words, VPCSR depends directly on intention and indirectly on sound accountability procedures and regulatory pressures. Moreover, external stakeholders would prefer oil MNCs to adopt APCSR in a situation where it is established that their business operations have caused negative effects on the physical environment. They perceive that APCSR could lead to environmental sustainability.

CHAPTER 9

SUMMARY AND CONCLUSION

9.1 Introduction

The discussion of findings and their support to the extant literature was the focus of the last chapter. This chapter presents the general overview of the thesis in Section 9.2, followed by conclusions and implications of the findings in Section 9.3 and 9.4, respectively. The contributions to knowledge are discussed in Section 9.5. The limitation of the study follows in Section 9.6, and the suggestion for further investigation in the last section.

9.2 General Overview of the Thesis

To achieve the set objectives of this study, the thesis was organised into three main parts. The first five chapters of the thesis set the context for the study. The first chapter was used by the researcher to introduce the thesis and other related chapters, highlighting the originality of the study and its main theoretical contribution to the body of knowledge. In Chapters 2 to 4 the researcher reviewed the theoretical/empirical literature on issues connecting organisations to society and stakeholders under the auspices of CSR, environmental ethics, cognitive psychology, and sustainable development to provide an informed background to the study and to guide the development of theory based hypotheses. Specifically, Chapter 2 reviewed the environmental phenomenon in the context of O&G industry in Nigeria and the current oil firms' CSR practices.

The researcher also endeavoured to review extant literature on CSR contribution to sustainable development in Nigeria. The review revealed that the *physical environment component* of sustainable development in the context of Nigeria O&G industry is ignored. Besides, it is argued that weak legal and regulatory systems in developing countries has failed to drive CSR contribution to this component of sustainable development. This creates a gap in literature on what could lead to CSR contribution to environmental component of sustainability in developing countries. Given dearth of literature on drivers of CSR contribution to environmental sustainability in developing countries, the researcher resorted to the review of general literature on CSR and sustainable development in Chapter 3.

In Chapter 4, the theoretical underpinnings of the study were examined. Given the multivariate nature of this study, four theories were used in explaining the interconnectedness of the constructs. Two of the theories (stakeholder and social contract) explain the relationship of oil companies with communities; while theory of accountability explains the responsibility in such relationship. The theory of reasoned action was employed to investigate the cognitive psychological root of intentional or voluntary perspective of CSR (VPCSR) contribution to ES. These theories explain the rationale for negative actions taken by affected stakeholders and the ways firms respond or ought to respond to such actions. Based on the extant literature and the theoretical underpinnings, a FSES model, which captures accountability procedures and intention as mediating factors, was developed as presented in Chapter 5. The reviewed literature and theories helped in the formulation of research questions and development of hypotheses used in testing FSES model. The main themes included in the study were defined in that chapter. This was done to put the present study in correct perspective.

The second part of the thesis is only one chapter, which is Chapters 6. In this chapter the researcher discussed in detail the research methodology and justified the rationale for alternative methods. The philosophical perspectives and quantitative/qualitative divide were examined thoroughly. This helped the researcher to choose appropriate research methods, which to significant extent, depends on research objective, nature of the investigation, and the research questions. Therefore, based on the nature of the research questions the post-positivist (i.e. critical realist) stance, which is majorly quantitative approach, was taken in providing answers to the research questions. The studies employed survey strategy to draw cross-section data from three groups of environmental stakeholders in Niger Delta region of Nigeria. A subset of expert group's data was used in identifying and refining the underlying dimensions of CES factors empirically. This was deemed necessary because of the holistic approached adopted in the study and the fact that the survey instrument needed thorough validation since it has not been used in previous study.

The third part of the thesis was devoted to the empirical analysis and interpretation of results for all the research questions, and it consists of Chapters 7 and 8. The researcher extensively explored the related literature on CSR, environmental ethics and management, cognitive psychology relating to organisational behaviour, accountability and sustainable development to find main CES factors and thus provide answers to first research question. For the remaining research questions, the researcher, in addition to general literature, extensively explored the stakeholder, social contract, accountability and reasoned action theories to answer the questions.

Hypotheses 1 to 3 were tested to establish what could cause community's negative reactions. Given that accountability is a middle level construct, the third question was on what could trigger accountability. Hypotheses 4 and 5 were tested to answer this question. The fourth research question was concerned with investigation of factors behind corporate managers' intention and actual voluntary commitment to CES policy and practice. Hypotheses 6, 7 and 8 were tested to find answers to this question. The fifth research question, which is the central focus of this study, examined the potential of environmental accountability procedures in driving CSR contribution to sustainability. Hypotheses 9 to 11 were tested to answer the question. The findings were discussed in Chapter 8; while the conclusions of the thesis are the subject of the next section of this chapter.

9.3 Summary of Findings

The study conclusions drawn from the findings are summarised in three main parts.

The **first** part of conclusion focuses on the CES factors identification. The study investigated what a subset of expert group of external stakeholders in Nigeria O&G industry perceive to be key CES factors in Section 7.3 of Chapter 7. Using survey research strategy and factor analysis technique to extract latent factors, this study identified factors that could be considered in corporate social and environmental responsibility policy and practice in oil industry. Results showed eight factors with underlying dimensions that are peculiar to oil industries operating in weak state regulatory system. These eight factors were conceptualised into *external driving*, *corporate responsiveness*, and *intermediating factors* that could boost corporate responsiveness in the developing countries. One main conclusions from CES factors point of views is that, in the context of weak environmental regulatory system, achieving a sustainable environment which benefits all the stakeholders requires adopting holistic perspectives which consider salient external driving, corporate responsiveness and intermediating factors.

The **second** part of the study conclusion revolves around similarities and differences of respective group's perceptions on theoretical relationships of sustainable factors, particularly, the role accountability could play in boosting CSR contribution to environmental sustainability. From the results in Section 7.6, it is concluded that environmental stakeholder groups do not hold similar views on structural pattern of the factors that could lead to sustainability in Nigeria.

Previous studies have found that oil multinationals in Nigeria have failed in their environmental responsibility (Frynas, 2012; Idemudia, 2009a). Hence, external stakeholder groups (communities/NGOs and experts) attach an importance to APCSR in Nigeria O&G industry as this, in their perception, could lead to improvement in CES practices. The internal stakeholders do not support their views. These findings have crucial implications for theory, policy and practice.

The **third** part of conclusion focuses on strands of the theoretical relationships supported by respective groups and probable reason behind such support. In Section 7.7 of Chapter 7, the findings of theoretical relationships of CES latent constructs on group basis are very revealing. Based on OMNCs and CNGOs groups' perceptions, it could be concluded that it is not only mass media that can disseminate environmental risk awareness, but that *"hear-say"* verbal communication among villagers in clusters of communal settings in African culture can effectively spread local information about the danger of physical environment. EXPTs group, which is dominated by academics, do not believe that non-compliance with stakeholders' environmental requirements could significantly boost pollution risk awareness. Of course, the traditional means of creating awareness is mass media, and this was not the focus in the survey. When viewed in terms of external and internal stakeholders it can be concluded that physical environmental condition influence pollution risk awareness of stakeholders.

Internal and external stakeholders attribute community negative reaction towards polluting firms to oil firms' non-compliance with stakeholders' minimum expected environmental standards. The study concludes that even if the people are poor and less educated when environmental situation goes bad they will react. At least, from the days of Ken Saro-Wiwa, negative reaction from communities in Niger Delta are attributed to environmental degradation associated with oil production.

Moreover, the results in Section 7.7.1 and 7.7.2 and hypothesis 5 (Table 7.40) suggest environmental risk awareness as a key factor that could trigger the need for accountability procedures in the perspectives of OMNCs and CNGOs. It could be concluded that when people are aware of the unfavourable environmental condition due to oil companies' volitional or discretionary conducts that violate ethical environmental principle and conduct, they will press for a system of accountability. Although, EXPTs group does not share in this view, it is evident from the other two groups that environmental risk awareness, which is directly influenced by non-compliance with expected environmental standards, has the tendency to trigger the need for environmental accountability procedures in Nigeria O&G industry.

Another interesting conclusion is about what triggers corporate managers' intention to improve environmental behaviour and what such intention could lead to in terms of expected environmental performance. All groups perceive that the thought of environmental accountability is a key driver of corporate managers' intention to improve upon environmental behaviour in Nigeria O&G industry. When such intention matures, it brings forth VPCSR that can contribute to ES. Therefore, it is concluded that managers of oil firms will likely anticipate possible negative consequences of environmental negligent, and to avert them, they would intentionally strive to meet stakeholders' environmental expectations and operate business in Niger Delta with the sense of environmental accountability.

The final in this part of conclusion is concerned with what could be derived from accountability procedures. From the results, OMNCs groups does not relate commitment to environmental sustainability and alignment of CSR with accountability procedures. On the other hand, external stakeholders (CNGOs and EXPTs) see accountability as a factor with high propensity to drive CSR alignment with pollution impacts, corporate commitment to sustainability, and transparency on environmental impact information. Thus, it could be concluded that internal stakeholders who are employees of oil multinationals do not support APCSR as better CSR approach that could lead to environmental performance that is acceptable to the stakeholders; while external stakeholders do. These results have important implications from the perspectives of external stakeholders.

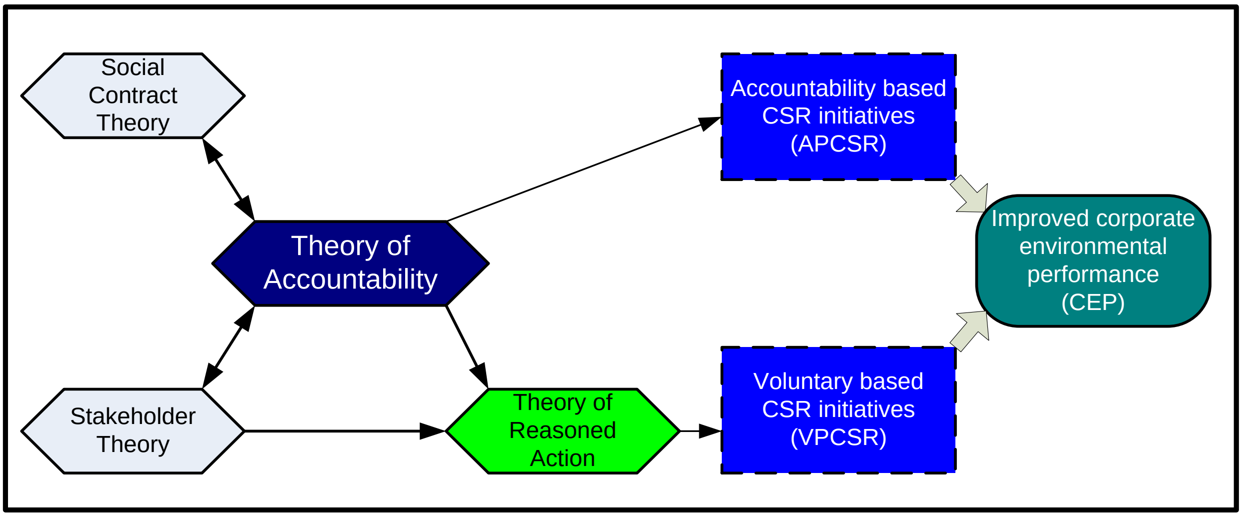
9.4 Implications of the Findings

The study's implications are summarised in this section with focus on researchers, oil companies, civil society organisation/NGOs, and government agencies.

9.4.1 Implication for Researchers

This thesis highlights to the researchers the importance of using multiple theoretical lenses when investigating social and environmental phenomena. The links and inter-relationships of the four theories employed in this study were carefully discussed in Section 4.7 of Chapter 4. These theories are synthesised in Figure 9.1 to illustrate the strands that explain two distinct CSR approaches that could lead to CES, APCSR and VPCSR.

Figure 9.1: The Meta-Theory Model for Investigation of CSR Approaches



The model illustrates that stakeholder, social contract and accountability theories when employed as meta-theory along with theory of reasoned action provide more informed explanation for ways social/environmental phenomenon could be addressed. Social contract stipulates the conditions (e.g., compliance with sound environmental standards) on which oil companies are granted *social license to operate*. The breach of terms and conditions of such contract through non-compliance signals existence of unfair treatment of society of *stakeholders* that granted the license. This, invariably, spreads environmental risk awareness and triggers community's negative reactions and the need for a system of environmental *accountability*, since the need for accountability arises at the instance of unfair treatment in a relationship (Tetlock, 1999). Based on precautionary principle, firms in oil industry would likely take *reasoned actions* towards averting consequences of breaching terms of social contracts. Such actions would be reflected in the voluntary use of CSR policy to address environmental concerns of the stakeholders.

From the logical connections, social contract and stakeholder theories establish the company-community relationship and the responsibility in that relationship, which is environmental stewardship. The theory of accountability, which explicates responsibilities in the relationship (Gray *et al*, 2014), is invoked when unfavourable environmental condition arises (Folger & Cropanzano, 2001). The application of these three theories could explain accountability perspective of CSR (APCSR) initiatives. On the other hand, *theory of reasoned action* complements *stakeholder* and *accountability* theories in explaining a situation where corporate managers on their own accord decide to conduct business with the sense of environmental accountability because of negative consequences of failing to do so. The combination of these three theories could explain voluntary perspective of CSR (VPCSR) initiatives. This later combination supports Gray *et al* (2014) argument that accountability can be discharged voluntarily.

Voluntary in the sense that it is intentional, and *intention* is rooted in reasons (Fishbein & Ajzen, 2010). The double headed arrows show interactions in the relationship, which involve engagement and dialogue (AccountAbility, 1999; Gray *et al*, 2014); while single headed arrows indicate one-way flow of external influence in the relationship (Frooman, 1999). The result of both approaches is expected improvement in CEP; however, accountability approach is more appealing in the context of developing economies characterised by weak legal system. The indication is that collaborative theories provide better explanations of social phenomenon. These findings support Yekini (2012), which demonstrates how multiple theories provide better explanation to corporate-community involvement disclosures in annual reports. More importantly, it aids in developing theory-laden hypotheses in quantitative study (Blaikie, 2003).

9.4.2 Implication for Business Corporations

First, thesis' practical implications for business revolve around the ongoing struggles between the host communities and oil multinationals in Niger Delta over oil firms' environmental degradation and failure of their CSR initiatives to salvage the situation. The study highlights the perspectives of experts on factors which oil MNCs could consider in their CSR and sustainable development agenda in developing countries. The findings show eight factors with their underlying dimensions that are peculiar to oil industries operating in weak state regulatory system. These factors could be considered when deliberating on corporate responsible and sustainable operations in the Niger Delta.

Second, oil MNCs could ease corporate-community tension by considering the perspectives of key constituents of stakeholders in their social and environmental responsibility programmes. Although the internal stakeholders do not support APCSR as means of enhancing CSR contribution to environmental sustainability, the external stakeholders are in full support. Since most of the conflicts arise from external not internal stakeholders, oil MNCs can consult with key external stakeholders, engage them and understand their opinions on how to improve environmental situation in the region and engage them in compliance monitoring. If they participate in a sound accountability system, even when the whole environmental performance expectation is not met it would be easier for representatives of stakeholder groups to relay information to their groups than company representatives.

Third, the thesis suggests that corporations can manage the host communities' pollution risk perceptions and attitude towards companies by giving serious attention to environmental issues that give them concern. Non-compliance with expected environmental standards is visible with a high propensity to create awareness, and lead to contemplations and assumptions of various forms of potential risks; and could consequently ferment negative attitudinal behaviour from the natives towards polluting firms. Therefore, firms in high environmental visibility category (Bowen, 2000) could reduce corporate-community tensions by reducing their environmental visibility through performance of their expected environmental obligations. The implication is drawn from the perceptions of internal and external stakeholders.

Finally, oil firms in Nigeria should not wait to respond to community reaction or demand for a system of accountability before they perform their ethical environmental obligation. As the study discloses, the need for a system of accountability that involves engagement with external stakeholders will not arise where firms voluntarily comply with, at least, stakeholder minimum environmental requirements, which could be performance of ethical environmental obligations. In other words, where business is operated with a high *sense of environmental accountability* (i.e., self-judgement) there will be no need for *a system of accountability that involves the external stakeholders*. This minimum compliance will likely reduce informal regulatory pressure from community groups, NGOs and social movements.

9.4.3 Implication for Local Communities/NGOs

The results reveal that awareness of the environmental risks of business activities is an import factor in determining implementation of APCSR by firms. This points to the possible role the communities, NGOs, and civil society organisations could play in creating genuine awareness of the environmental risk. Where necessary a scientific study can be conducted independently, by the stakeholders/NGOs groups, to establish valid environmental risk of a business and create awareness through the study report. The sequence of direct and indirect actions follow awareness which could eventually lead to business application of strategies that could improve environmental performance. For instance, Gadenne *et al* (2009) study suggest that actions from external stakeholders against environmental pollution can create awareness which can lead to corporation reengineering of production and environmental management strategies. The external stakeholders must rise and draw oil companies' attention, in the most democratic approach, to their environmental responsibility. For proper understanding of what the situation of Niger Delta will be in future if nothing is done, environmental NGOs should find out how many exhausted oil wells have been abandoned for years in the region.

The results further disclose that managers' psychological factors are essential elements that determine VPCSR contribute to ES (Chapter 7 section 7.7). Specifically, this highlights the role of civil society movement and NGOs in shaping corporate environmental behaviour. Although the activities of the informal environmental regulatory agencies are sometimes undermined, particularly in developing countries, the present thesis suggests that they are important. However, it is necessary to adopt a democratic and legitimate approach when demonstrating grievances against polluting firms. Criminality has the tendency to misconstrue the good purpose of forming a civil society groups that can echo the voice of the local community to the wider community. It is also important to go through normal and acceptable process when staging a protest against a firm's environmental misbehaviour.

9.4.4 Implication for Government Agencies

The findings disclose differences in stakeholders' perceptions on factors that could lead to CES. The implication is that government can help in reducing tension between corporations and native communities if it makes it mandatory for the companies that intend to make investment to consults with leaders of potentially affected stakeholder groups before business commences. Business needs to understand the perceptions of the affected stakeholders and inform that of the adverse effects of any proposed project. A thorough environmental impact assessment (EIA) report should not be optional but it should be made imperative.

Moreover, unwholesome behaviour of youth in Niger Delta are linked to environmental risk awareness, which directly link to corporate non-compliance with environmental standards. Government should address the militancy activities, protest, vandalization of oil production facilities, denial of access to oil production installations from the root cause and perspectives of the affected stakeholders. Previous studies suggest that some of these activities have been used in Niger Delta as means of drawing the attention of government and oil companies to the deplorable environmental condition of Niger Delta and impoverished natives (Boele *et al*., 2001a; Eweje, 2007; Idemudia, 2009a).

It is therefore important for government to consider the environmental situation in Niger Delta and enforce oil companies' compliance with internationally accepted environmental standards as this would, to some extent, reduce community negative reactions and restore peace in the region. In recent times Niger Delta Avengers (NDA) has risen with much determination to fight more than ever before. The government strategy of settling militants and granting them amnesty without addressing the root cause of the problem may not restore peace in the region. A new generation of militancy will most likely come up, as long as the youths grow up to see the horrible environmental condition attributed to oil MNCs' business activities (see Section 2.6.3; Chapter 2). Government should join with communities to encourage firms to operate with the sense of accountability in the region.

9.5 Contributions to Knowledge

By employing factor analysis approach in identifying CSE factors and examining their structural relationships in the context of Nigeria oil industry, this study makes original contributions to literature in areas of CSR and ES. Given that it is the first study to investigate, in a holistic manner, theoretical relationships of CES factors in Nigeria, it produces a number of informed theoretical, empirical, and analytical/methodological contributions.

9.5.1 Theoretical Contributions

The thesis makes the following original theoretical contributions to CSR and ES literature.

First, by identifying empirically the environmental accountability procedures, CSR alignment with business negative social impact, and transparency on environmental impact, the thesis offers fresh insight on the ongoing debate on factors that could lead to CSR contribution to environmental sustainability and pollution reduction in developing countries. As far as the researcher is aware, the empirical evidence on whether the identified driving, intermediating, and corporate responsiveness factors are relevant in the context of O&G industry in developing countries is not explored in literature. Besides, no study examined the underlying dimension of these factors and their correlations, and thus, this study addressed this vacuum. Further, this exploratory study signalled the need for studying the environmental sustainability problems using a variety of theories, perspectives and methods to further scholarly understanding of this complex and a hugely critical issue affecting our environment and society.

Second, the thesis offers Four-Step Environmental Sustainability (FSES) model that posits extant environmental situation as a major exogenous factor that generates series of actions and reactions from stakeholders in an industry (see Figure 5.1, Chapter 5). It provides fresh insight on a complex structure of actors in a business environment and the informed ways their actions and reactions could be investigated empirically to establish whether they could lead to stakeholders desired improvement in environmental performance. It lays out a roadmap for researchers who are interested in investigating CSR contribution to environmental sustainability, particularly where regulatory system is weak. It presents a holistic approach that aids understanding of possible ways APCSR and VPCSR could contribute to sustainability. It demonstrates that dual aspects of environmental accountability (retrospective and prospective) have high tendency to optimise CSR contribution to CES and create and/or restore environment conducive to productive business in a sensitive industrial zone (Section 5.2, Chapter 5). It also illustrates the need of *intention driving factors* in a highly environmentally visible industry, as this could lead to corporate voluntary use of CSR initiatives to contribute to sustainability. This theoretical framework was tested in this thesis.

Third, the thesis contributes to CSR and ES literature from the theoretical lenses of social contract, stakeholder, accountability, and reasoned action theories employed in this study. The thesis provides evidence that where corporations breach the terms and conditions of *social contract*, by failing in their ethical obligations of continuous pollution prevention and environmental protection, *stakeholders* will respond in divers ways. The external *stakeholders* will see this as unfavourable condition (i.e., condition that triggers need for accountability) in a community-corporate relationship and will threaten to withdraw the *"license to operate"* through negative reactions towards environmental polluting firms and they will also demand for a system of environmental *accountability.* The internal stakeholders on the other hand will not support a system of environmental accountability; they will rather prefer allowing corporate managers to think through complex structure of stakeholders and their multi-dimensions demand and come up with *reasoned actions* that would improve the environmental condition. Interestingly, external stakeholders will demand for APCSR to be adopted by oil multinationals; while internal stakeholders will prefer oil multinationals to use VPCSR initiatives in their effort to contribute to environmental sustainability. This aspect of contribution is based on the findings which indicate that in the perceptions of the external stakeholders, intention and accountability could lead to CSR contribution to environmental sustainability; while to the internal stakeholders the environmental situation could only be improved intentionally by corporate managers (see Section 7.7).

Fourth, the thesis is the first to provide evidence that suggest that when *accountability* and *stakeholder* theories are complemented with the theory of *reasoned action* a better understanding of corporate managers' voluntary use of CSR initiatives to contribute to environmental sustainability is obtained. The findings suggest that corporate managers will proactively improve environmental behaviour based on their psychological believe that they could be held accountable for unacceptable performance and that external stakeholders may take negative actions against them. The thesis illuminates our understanding of factors behind VPCSR contribution to environmental sustainability. In other words, behind every use of VPCSR to contribute to CES there is strong external pressure and/or a system of accountability.

Therefore, pure VPCSR contribution to CES is highly debatable and very controversial because without intention there is no voluntary action; and there is no intention without external determining factors (Ajzen, 1991; Ford & Ford, 1995; Fishbein & Ajzen, 2010; Martin-Pena *et al,* 2010). On the other hand, without external influence there is no intention to improve environmental performance given cost implications; and without such intention there is no voluntary commitment to environmental sustainability. Ford & Ford (1995) consider the factors that influence the intention to improve performance as the agent in the matter of the improved performance. In the absence of such *agents* (i.e. intention determining factors) VPCSR contribution to CES becomes doubtful.

Finally, the thesis introduces a unique Meta-Theory Model (Figure 9.1, Chapter 9) that demonstrates that multiple theoretical underpinnings are more robust in explaining complex social/environmental phenomenon with diverse interest groups than a stand-alone theory. The model highlights the theoretical roots of VPCSR and APCSR and adds to our understanding of why VPCSR alone cannot be suitable in addressing both social and environmental issues everywhere in the world. A system of environmental accountability entails engagement of stakeholders in decision making on issues that affect them, their involvement in compliance monitoring and enforceability. Moreover, those who buy the idea of *critical realists'* philosophy could use the model in studying the social/environmental phenomenon in any part of the world, with little or no moderation. Accountability is a middle level theory (Tetlock, 1999) triggered by unfair treatment of parties in a relationship. It can also trigger reasoned action based on personal internalised dialogues such as "what? if I am queried over my unacceptable performance" (Frink & Klimoski, 2004). Therefore, the sense of accountability can influence a reasoned action taken in anticipation of the outcome of unacceptable level of performance.

9.5.2 Empirical Contributions

The thesis adopts multivariate approach in investigating what could trigger intermediate construct such as accountability in a corporate-stakeholder relationship and what accountability itself could derive in terms of CSR contribution to ES. The empirical contributions are as follows:

First, this thesis contributes to the existing CSR research by identifying empirically additional factors that could be considered when using CSR as means of boosting environmental sustainability (Section 7.3.2). A system of environmental accountability is identified as a crucial factor capable of motivating the use of CSR initiative to contribute to CES. This approach involves setting of environmental standards in collaboration with the stakeholders and involving stakeholders in environmental compliance monitoring and enforceability. Other factors identified are CSR initiatives alignment with business negative impacts and corporate transparency on environmental impacts information disclosure. Moreover, their respective underlying dimensions are clearly identified in the context of Nigeria O&G industry.

Second, the findings suggest that corporate non-compliance with expected environmental standards influences environmental risk awareness directly and demand for accountability, indirectly. It also has direct effect on the community reaction towards polluting firms. That is, the more oil firms pollute physical environment, the more environmental risk awareness and community reaction increase. Again, the more environmental risk awareness increases the more stakeholders pressure for a system of environmental accountability. The risk awareness and pressure for accountability will decline with increase in oil multinationals' environmental performance.

Third, there is high propensity for firms to adopt APCSR based on the awareness of the environmental risks associated with their business activities rather than as a response to external informal pressure from the local communities. This is the perception of most of the study participants. Informal pressure was found to influence corporate commitment to ES in previous study (Henriques & Sadorsky, 1996); however, such pressure does not seem to motivate firms to implement accountability procedures. Risk awareness seems to signal more accurate information about corporate environmental behaviour than negative reaction from local community towards polluting firms.

Fourth, the empirical evidence from the perspective of the external stakeholder also suggests a general tendency for firms that adopt APCSR to improve their social and environmental responsiveness to the expectation of the stakeholders. That is, business organisations that adopt APCSR are more transparent in environmental impact information than their counterparts, they endeavour to mitigate the environmental impact of their business on the host communities, and they are likely to be committed to ES. The impression is that firms that operate with the sense of accountability are on the right pathways to more sustainable form of natural resource use (Roome, 1992). The findings give impression that such organisation will set minimum environmental standards, periodically conduct environmental audit to confirm the compliance with the standards, and take proactive steps to curtail potential environmental incidence. Indeed, their organisational visibility from the operating unit level, in terms of environmental degradation, would significantly decline.

Fifth, the data suggest that behind every voluntary CSR initiative of a company there is an *intention* since intention determines voluntary actions (Ajzen, 1991). As the intention increases so is the tendency to improve environmental behaviour. The present study reaffirms and extends the findings of Thoradeniya *et al.* (2015). Specifically, the thesis reaffirms that the *intentional behaviour* of corporate managers' can be driven by the psychological beliefs they hold about stakeholder pressure and system of accountability. The intention in this relationship is an intermediate factor between stakeholders' actions and actual performance of the voluntary behaviour by a firm. In Thoradeniya *et al.* (2015) such *intention* was found to directly influence *corporate sustainability reporting*. However, this thesis extends their findings by providing evidence that suggest that such intention has the likelihood of influencing CSR contribution to ES which precede sustainability reporting.

9.5.3 Analytical and Methodological Contributions

Apart from contributing to the body of literature in CSR and ES through empirical and theoretical lenses, this thesis also adds to the current analytical and methodological approaches used in investigating CSR contribution to CES. It is the first study to use multi-group invariance (MGI) analysis to investigate the similarities and differences of respective environmental stakeholders' perceptions on the right approach to CSR contribution to ES. MGI analysis, which is considered as one of the best parametric analytical approach that enables test of equivalence of both item-factor loadings and theoretical structure across the groups (Cheung & Rensvold, 2002; Byrne, 2008) was employed. This analytical approach enables understanding of groups' point of views on a subject, concurrently. By doing so groups with similar understanding will be observed by their nested Chi-square and degree of freedom which will not be statistically significant at 5% level. This makes the results robust. Through MGI analytical approach it was found that stakeholders from OMNCs, CNGOs, and EXPTs groups differ in the perspective of CSR that can lead to ES.

9.6 Limitations of the study

As it is common in most studies, this research is not without some limitations. The main limitations to the best of the researcher's knowledge include the following:

First is the limited size of the sample. This was due to breaking of the samples into two parts; with the first used in identifying the CES factors while the second was used in exploring the theoretical patterns of these factors. This was necessitated by the nature of the investigation which required CES factors identification using EFA before employing CFA and SEM to investigate the theoretical patterns of such factors (Fabrigar *et al*, 1999). However, the sample sizes in both sets of the analyses are above the minimum requirements of 100 for EFA and 250 for SEM (Fabrigar *et al*, 1999); that is sample size included in EFA and SEM were 116 and 302, respectively. Given that they are closer to the minimum, the application of the findings should be done with caution.

Besides, there was a wide gap between sample from two groups (CNGOs and EXPTs) and OMNCs group. This was due to difficulty encountered by the researcher in gathering larger amount of data from oil companies' participants. This therefore made OMNCs' relatively smaller than others; however, and the communality of factors in OMNCs group are all greater 0.60 emphasised for small size sample (MacCallum *et al.*, 1999). Although statistically no bias was indicated when tested on group basis, and Ho (2006) suggests that such differential in sample size of the groups may not have any profound influence on the results, yet the findings on MGI investigation should be used with this understanding.

Another limitation is that the researcher did not include data from State-owned Oil Corporation, the Nigerian National Petroleum Corporation (NNPC) that represents government and operates a joint venture with OMNCs. Although contribution from NNPC would have been insightful;

however, it was not included because the corporation does not involve directly in daily oil exploration and production operation. Besides, NNPC does not interface with the host communities and NGOs on environmental issues. Therefore, the researcher considered only the OMNCs because as the operator of the joint venture they have the technical expertise to manage the natural environment.

Further limitation is the items used as variables in this study. Although the researcher believes in these items as valid observable measures built into the latent constructs because they are based on previous studies; the researcher also admits that the items may not reflect all the environmental phenomena they attempt to capture. In addition, since these variables were defined on the basis of the existing literature and theories they may not be totally free from any form of bias.

Again, the researcher employed the quantitative approach in analysing survey data. The data collection instruments were mainly the close-ended statements which excluded the opinions of the respondents on the themes of the study. Although the instrument passed through pilot testing and was refined through that process, it may not be totally free from bias since the researcher alone did the extraction of the themes from the existing literature and theories and development of the instruments used in data collection.

Moreover, the researcher used multiple theories in the study of CES. The four theories included have been used by some scholars in isolation in the study of CSR and environmental phenomenon generally. However, as Gray *et al* (2014) suggest, even the untried theories may still originate in future. Therefore, given the developmental undertone of the CSR connection with sustainability, entirely new set of theories that have not been tried previously may also become relevant.

Finally, civil society organised protest may not yield the expected results if managers of oil companies resort to quelling the protest through “money bags” and gifts to community leaders. In other words, the intentional behaviour of corporate managers may not be influenced in a situation they know that they could buy over the youth leaders, the community leaders, and women leaders with cheap projects that have nothing to do with the degraded natural environment. This study has not investigated whether the stakeholders would prefer once-off gifts from oil companies to pressuring for improved CEP.

9.7 Suggestion for further research

First, future study may consider inter-country comparative investigation using FSES model. A cross-sectional study of several developing countries may produce more informed findings than does a study from one country. Moreover, the investigation of the influence of APCSR contribution to sustainability is not limited to O&G industry but could be tried in any other extractive industry prone to natural environmental degradation.

Second, further research may increase the data point used in SEM analysis and may adopt another method of estimation such as general least squares (GLS) instead of maximum likelihood estimation (MLE). This would further test the explanatory power of the accountability in boosting CES. Moreover, when investigating groups' perspectives, it is recommended that data-size gap be reduced as much as possible.

Third, future research may consider employing either qualitative approach or mixed method in studying the role of accountability in enhancing the use of CSR to improve natural environment. This would make room for all the environmental stakeholders – firms, societies, and government agencies – to disclose their individual group opinions on this subject.

Fourth, the NNPC may be included in future research if data is drawn from Nigeria. This seems important given their influence in joint venture with oil companies. It is also recommended that the perspectives of NNPC be analysed separately as a group to know whether they support OMNCs' accountability for their environmental performance in the region. Besides, the remaining three states in Niger Delta may also be included as this would either confirm the present findings or highlight other dimensions.

Fifth, future research may be extended to include the role of media in driving CEP. The impact of media on the intentional behaviour of corporate managers could provide insight on their potential in this regard. As the current findings reveal, creating of awareness of risk relating to environmental pollution may drive corporate managers into actions that would reduce the pollution.

Finally, the theoretical model developed in this study could be applied in any social/management science research, particularly those concerning corporations and the local communities. It could be extended to accommodate other theories; even those theories used previously in isolation in explaining sustainable development could be integrated if necessary.

As Blaikie (2003) points out, sound propositions and hypotheses should preferably be derived from theories. Therefore, multiple theories provide ample opportunities to the researchers to develop theory-based propositions and related hypotheses.

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APPENDICES

Appendix 1: Questionnaire

1A: Copy of Introduction Letter to Oil Companies

10 February 2015

TO:

The Shell Petroleum Development Company of Nigeria Ltd
Shell Industrial Area
Rumuobiakani
Port Harcourt, Rivers State
Nigeria

TO WHOM IT MAY CONCERN

I am writing to introduce to you Mr. Mfon Jeremiah, a full-time postgraduate research student at De Montfort University, UK. He is studying for a Doctorate degree (PhD) in Corporate Social Responsibility under my supervision.

Mr. Jeremiah is researching on '**Accountability Perspectives on Corporate Social Responsibility and Environmental Sustainability in developing countries: Evidence from Nigeria'** and would need your organisation's kind assistance in gathering the necessary data for his study. The study explores the challenges of environmental sustainability in developing countries with aim of establishing whether accountability approach to corporate social responsibility could make a difference.

He would be collecting primary data using questionnaires and also by interviewing your staff for his in-depth understanding of the study variables. We must state that this study strictly follows the University's ethical regulations that guide research data collection and usage. Therefore, whatever information your organization provides him would be treated with utmost confidentiality.

Your kind cooperation would be well appreciated.

Kindest regards,

Dr. Natalia Vershinina
Principal Lecturer
Dept. of Strategic Management & Marketing

1B: Questionnaire Administered

DE MONTFORT UNIVERSITY
LEICESTER

Dear Respondent,

I am a doctoral research candidate at Leicester Business School, De Montfort University, United Kingdom. I am researching on Accountability Perspectives on Corporate Social Responsibility and Environmental Sustainability in Developing countries with evidence from Nigeria. The Nigeria oil and gas industry provides an interesting and unique platform for exploring the challenges of environmental sustainability while striving for economic growth and development.

One of the aims of this study is to investigate the potentiality of the accountability perspective of corporate social responsibility (CSR) in explaining why multinational corporations (MNCs), doing business in developing countries, should adopt viable environmental sustainability approach, thus contribute significantly to sustainable community development. Accountability is concerned with an organisation admitting that its actions affect external environment and therefore assuming responsibility for the effects of such actions (Gray, Owen and Adams, 1996). CSR is a principle stating that corporations should be accountable for the effects of any of their actions on the community and environment (Frederick *et al*, 1992); while environmental sustainability is concerned with the effective management of physical resources so that they are conserved for future generation (Crane and Mattenm, 2007).

Hence, environmental issues associated with crude oil production are at the centre of the study. I shall be grateful if you kindly supply the needed information accurately. It is purely an academic research with no implications on the participants. The study

is conducted as a requirement in partial fulfilment for the award of the degree of Doctor of Philosophy (PhD). Therefore, information supplied will be treated in strict confidentiality and anonymity.
Thank you for your kind cooperation.

Mfon Jeremiah

PARTICIPANT CONSENT FORM
PLEASE TICK FOR CONFIRMATION

		PLEASE TICK BELOW
1	I fully understand the research project which has been explained to me and for which I have agreed to participate.	
2	I also understand that my participation is voluntary and that I can withdraw at anytime without giving any reason and this will not affect me now or in future.	
3	I also understand that all my details are held in high confidentiality.	

I fully understand the above as it has to do with academic purpose and therefore give my consent.

....
Participant's Signature Date

QUESTIONNAIRE

A. DEMOGRAPHIC ATTRIBUTES OF ALL PARTICIPANTS

Instruction: Kindly tick the appropriate box or column for the option that best explains your response.
1. Gender: Male □ Female □
2. Age (years): 18 – 30 □ 31 – 40 □ 41 – 50 □ Above 50 □
3. Highest educational qualification: BSc/HND □ MSc/ MBA □ PhD □ Others (please specify) …
4. Your organisation………………………
5. Years of service in this organisation: 1 – 5 □ 6 – 10 □ 11 – 15 □ 15 – 20 □ Above 20 □
6. State of origin…………………………..

QUESTIONNAIRE GOVERNMENTAL AND NON-GOVERNMENTAL ORGANISATIONS

B. Pollution risks awareness

Please, indicate your level of awareness of environmental pollution risks as related with the following statements by marking "X" in the appropriate column.

S/N	Statement	Very much aware	Moderately aware	Some what aware	Slightly aware	Not at all aware
B1.	Decline in farming activities of local communities is associated with undue environmental pollution. **(apepr1)**					
B2.	Gas flare into atmospheric air causes acid rain. **(apepr2)**					
B3.	Oil spills on drinkable water create serious health hazards. **(apepr3)**					
B4.	Uncleaned oil spills leave a lasting effect on ecosystem **(apepr4)**					
B5.	Uncleaned oil spills grieve affected communities **(apepr5)**					

C. Host communities' struggle for resource control

Please, indicate your level of agreement with the following statements by marking "X" in the appropriate column. The columns are as follows: Strongly Agree (SA), Agree (A), Neither Agree nor Disagree (N), Disagree (D), and Strongly Disagree (SD)

S/N	Statement	SA	A	N	D	SD
C1	Oil production facilities vandalization is communities' extreme reaction to firm's irresponsiveness to environmental situation. **(cnab1)**					

C2	Denial of access to production facilities can draw attention to unattended oil spills. **(cnab2)**					
C3	Origin of conflict for resource control is linked to undue environmental pollution. **(cnab3)**					
C4	Protest is a way of expressing grievances by host communities over environmental pollution. **(cnab4)**					
C5.	Transparency on environmental impact information of the prospective business project is important. **(teii1)**					
C6.	Environmental impact assessment report informs granting of free, prior and informed consent (FPIC) to business corporation. **(teii2)**					
C7.	Business will respect terms and conditions upon which free, prior and informed consent of local communities was obtained. **(teii3)**					
C8.	Stakeholders will exert pressure for corporate transparency on environmental impact of their business activities. **(teii4)**					

D. Corporate environmental negative injunction duty

S/N	Statement	SA	A	N	D	SD
D1.	Non-compliance with ethical environmental standards which demand that corporations should not harm local environment in the course of doing their business is visible to local communities. **(npnid1)**					
D2.	Business negligence of its ethical environmental obligations grieves host community. **(npnid2)**					
D3.	Non-compliance shows lack of environmental accountability, which is more about what business does not do than what it does in its business environment. **(npnid3)**					

E. Implementation of environmental accountability mechanisms

S/N	Statement	SA	A	N	D	SD
E1.	Stakeholders' engagement in environmental standard setting is important when implementing environmental accountability procedure. **(eam1)**					
E2	Conducting of environmental auditing is important accountability mechanism that puts corporations under obligation to periodically examine their compliance with set standards. **(eam2)**					
E3.	Making the environmental surveillance the obligation of all stakeholders is necessary accountability implementation procedure that can motivate corporate environmental performance. **(eam3)**					
E4.	Protest (sanction) against poor environmental behaviour is an enforceability mechanism of accountability that can deter further pollution. **(eam4)**					

F. CSR initiative alignment with potential impacts of environmental pollution

S/N	Statement	SA	A	N	D	SD
F1.	CSR initiatives alignment with potential impact of pollution is stakeholders' preference. **(csria1)**					
F2.	CSR initiatives alignment with the potential impact of pollution addresses the impact directly. **(csria2)**					
F3.	Matching of CSR initiatives with undue environmental pollution can act as deterrent against further pollution. **(csria3)**					
F4.	Alignment of CSR initiative with negative impacts of environmental pollution enables evaluation of CSR's pollution impacts mitigation capacity. **(csria4)**					

G. Corporate behaviour intention to improve environmental performance

S/N	Statement	SA	A	N	D	SD
G1.	The belief about the consequences of poor environmental performance can drive corporate intention to implement environmental sustainability principles. **(cbi1)**					
G2.	Corporate perception of stakeholders' pressure can influence its intention to improve environmental behaviour. **(cbi2)**					

G3	Corporate perception of the worldviews of its environmental performance can influence its intention to improve environmental behaviour. **(cbi3)**					

H. Corporate commitment to environmental sustainability

S/N	Statement	SA	A	N	D	SD
H1.	Being proactive to environmental issues indicates commitment to environmental sustainability. **(cces1)**					
H2.	Beyond the regulatory requirements' environmental performance demonstrates commitment to sustainability. **(cces2)**					
H3.	Compensating for undue pollution indicates advances towards sustainability. **(cces3)**					
H4.	A timely response to environmental pollution incidence demonstrates corporate commitment to environmental sustainability. **(cces4)**					

THANK YOU!

Appendix 2: Initial Factor Analysis for Identification of Latent Constructs

2A: Internal Reliability Test of Factors Extracted using EFA

2A(i): Case Processing Summary

		N	%
Cases	Valid	116	100.0
	Excluded[a]	0	.0
	Total	116	100.0

a. Listwise deletion based on all variables in the procedure.

2A(ii): Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.905	.906	31

2A(iii): Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
B1	128.2931	271.079	.497	.736	.901
B2	128.3707	268.931	.536	.771	.901
B3	128.5431	271.937	.423	.758	.902
B4	128.3966	269.146	.516	.793	.901
B5	128.5776	272.959	.328	.481	.904
C1	128.5000	266.130	.558	.836	.900
C2	128.6379	266.842	.477	.803	.902
C3	128.6121	266.553	.547	.811	.900
C4	128.6466	266.996	.487	.774	.901
C5	128.3879	270.326	.443	.803	.902
C6	128.4138	275.253	.365	.704	.903
C7	128.5517	273.936	.379	.750	.903
C8	128.4914	271.209	.421	.800	.902
D1	128.6121	274.100	.314	.752	.904
D2	128.5862	274.314	.332	.769	.904
D3	128.4655	270.999	.432	.795	.902
E1	128.5000	269.226	.522	.754	.901
E2	128.4397	266.944	.609	.718	.899
E3	128.5000	272.843	.456	.690	.902
E4	128.4397	272.370	.446	.685	.902
F1	128.4569	268.111	.494	.860	.901
F2	128.5345	266.999	.550	.801	.900
F3	128.6638	268.886	.459	.805	.902
F4	128.4741	272.165	.437	.725	.902
G1	128.5948	267.582	.520	.710	.901
G2	128.7069	269.409	.482	.683	.901
G3	128.7241	272.410	.384	.672	.903
H1	128.3966	269.494	.475	.772	.901
H2	128.5172	268.548	.499	.847	.901
H3	128.5172	269.400	.534	.775	.901
H4	128.5000	272.252	.406	.787	.903

2B: Communality of Initial 31 Variables Included in Factor Extraction

	Initial	Extraction
B1	.736	.733
B2	.771	.659
B3	.758	.702
B4	.793	.702
B5	.481	.362
C1	.836	.831
C2	.803	.809
C3	.811	.824
C4	.774	.774
C5	.803	.864
C6	.704	.557

C7	.750	.638
C8	.800	.767
D1	.752	.783
D2	.769	.771
D3	.795	.821
E1	.754	.787
E2	.718	.590
E3	.690	.686
E4	.685	.576
F1	.860	.930
F2	.801	.780
F3	.805	.801
F4	.725	.688
G1	.710	.721
G2	.683	.665
G3	.672	.809
H1	.772	.794
H2	.847	.799
H3	.775	.709
H4	.787	.688

Extraction Method: Principal Axis Factoring.

2C: Total Variance Explained

Factor	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	8.271	26.680	26.680	8.008	25.834	25.834	3.268	10.542	10.542
2	3.744	12.076	38.757	3.484	11.239	37.073	3.210	10.355	20.897
3	3.432	11.071	49.828	3.172	10.233	47.306	3.190	10.290	31.187
4	2.420	7.807	57.635	2.206	7.116	54.422	3.116	10.050	41.237
5	2.240	7.225	64.860	1.978	6.381	60.803	2.841	9.166	50.403
6	1.783	5.751	70.611	1.531	4.937	65.741	2.447	7.892	58.295
7	1.584	5.110	75.721	1.326	4.276	70.017	2.442	7.878	66.173
8	1.210	3.902	79.623	.915	2.953	72.970	2.107	6.797	72.970
9	.827	2.668	82.291						
10	.654	2.110	84.401						
11	.617	1.989	86.390						
12	.513	1.655	88.045						
13	.399	1.288	89.333						
14	.380	1.227	90.559						
15	.332	1.071	91.630						
16	.293	.946	92.576						
17	.267	.861	93.436						
18	.247	.797	94.234						
19	.220	.710	94.943						
20	.191	.617	95.560						
21	.181	.584	96.144						
22	.178	.573	96.717						
23	.158	.509	97.226						
24	.149	.479	97.705						
25	.141	.456	98.161						
26	.122	.393	98.554						
27	.106	.342	98.895						
28	.097	.313	99.208						
29	.091	.293	99.501						
30	.083	.269	99.770						
31	.071	.230	100.000						

Extraction Method: Principal Axis Factoring.

2D: Correlation Matrix of Factors that Influence Environmental Sustainability

	B1	B2	B3	B4	C1	C2	C3	C4	C5	C6	C7	C8	D1	D2	D3	E1
B1	1	.683**	.727**	.743**	.271**	.238*	.244**	.233*	.343**	.212*	.263**	.304**	.169	.101	.127	.208
B2		1	.603**	.661**	.279**	.334**	.300**	.310**	.269**	.424**	.175	.224*	.159	.174	.160	.263*
B3			1	.668**	.194*	.262**	.227*	.236*	.245**	.134	.373**	.194*	.094	.064	.068	.09

B4				1	.264**	.275**	.244**	.278**	.325**	.238*	.227*	.464**	.217*	.083	.157	.223
C1					1	.817**	.840**	.755**	.053	.028	.125	.072	.082	.110	.174	.196
C2						1	.788**	.793**	.026	.027	.127	.039	.026	.133	.107	.15
C3							1	.796**	.056	.062	.143	.058	.092	.172	.184*	.227
C4								1	.043	.076	.103	.049	.059	.184*	.185*	.196
C5									1	.684**	.724**	.775**	.302**	.298**	.267**	.13
C6										1	.550**	.643**	.309**	.310**	.345**	.13
C7											1	.665**	.158	.107	.160	.09
C8												1	.298**	.232*	.312**	.17
D1													1	.756**	.789**	.251*
D2														1	.774**	.284*
D3															1	.364*
E1																1
E2																
E3																
E4																
F1																
F2																
F3																
F4																
G1																
G2																
G3																
H1																
H2																
H3																
H4																

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

2E: Total Variance Explained after Exclusion of 1 Item

Factor	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %

1	8.143	27.145	27.145	7.888	26.293	26.293	3.278	10.926	10.926
2	3.626	12.086	39.230	3.387	11.289	37.583	3.213	10.711	21.637
3	3.429	11.430	50.661	3.166	10.552	48.135	3.161	10.538	32.175
4	2.406	8.019	58.680	2.197	7.322	55.457	2.808	9.360	41.536
5	2.165	7.215	65.895	1.922	6.407	61.864	2.806	9.354	50.889
6	1.737	5.791	71.686	1.488	4.960	66.824	2.468	8.227	59.116
7	1.567	5.224	76.909	1.310	4.366	71.190	2.442	8.141	67.257
8	1.204	4.013	80.923	.913	3.042	74.232	2.092	6.974	74.232
9	.693	2.311	83.234						
10	.622	2.073	85.307						
11	.538	1.792	87.099						
12	.510	1.699	88.797						
13	.381	1.271	90.069						
14	.334	1.112	91.180						
15	.314	1.047	92.227						
16	.279	.931	93.158						
17	.254	.846	94.003						
18	.220	.735	94.738						
19	.192	.639	95.377						
20	.182	.607	95.984						
21	.178	.592	96.577						
22	.158	.527	97.103						
23	.150	.501	97.604						
24	.141	.471	98.075						
25	.127	.422	98.498						
26	.106	.354	98.852						
27	.097	.323	99.175						
28	.091	.303	99.478						
29	.085	.284	99.762						
30	.071	.238	100.000						

Extraction Method: Principal Axis Factoring. N= 169

Appendix 3: Summary of Frequency of Responses from Respective Group

3A: Summary of Frequency of responses from Oil Companies *(N = 41)*

Level of awareness

Item	NAA		SLA		SWA		MA		VMA	
	F	%	F	%	F	%	F	%	F	%
Declined farming activities (apepr1)	2	4.9	7	17.1	6	14.6	9	22.0	17	41.5
Polluted atmospheric air (apepr2)	1	2.4	2	4.9	8	19.5	7	17.1	23	56.1
Polluted drinkable water (apepr3)	0	0.0	2	4.9	4	9.8	12	29.3	23	56.1
Degraded ecosystem (apepr4)	0	0.0	5	12.2	4	9.8	9	22.0	23	56.1
Grief for uncleaned oil spills (apepr5)	7	17.1	5	12.2	4	9.8	7	17.1	18	43.9

NAA = Not at all aware, SLA = slightly aware, SWA = somewhat aware, MA = Moderately aware, VMA = very much aware

Extent of agreement with statements

Item	SD		D		NAND		A		SA	
	F	%	F	%	F	%	F	%	F	%
Oil facilities vandalization (cnab1)	7	17.1	7	17.1	6	14.6	12	29.3	9	22.0
Access blocking (cnab2)	1	2.4	2	4.9	7	17.1	15	36.6	16	39.0
Struggle for resource control (cnab3)	0	0.0	2	4.9	4	9.8	22	53.7	13	31.7
Demonstration of grievances (cnab4)	1	2.4	5	12.2	5	12.2	12	29.3	18	43.9
Importance of environmental impacts transparency (teii1)	0	0.0	3	7.3	4	9.8	17	41.5	17	41.5
EIA as basis for informed consent (teii2)	0	0.0	4	9.8	4	9.8	19	39.0	17	41.5
Regards to informed consent expected (teii3)	6	14.6	3	7.3	5	12.2	16	39.0	11	26.8
Stakeholder pressure for transparency (teii4)	1	2.4	3	7.3	6	14.6	14	34.1	17	41.5
Visibility of non-compliance (npnid1)	1	2.4	4	9.8	5	12.2	16	39.0	15	36.0
Grievances for negligence (npnid2)	1	2.4	1	2.4	4	9.8	12	29.3	23	56.1
Lack of accountability (npnid3)	0	0.0	4	9.8	3	7.3	12	29.3	22	53.7
Stakeholder engagement in standards setting (eam1)	2	4.9	3	7.3	7	17.1	14	34.1	15	36.6
Environmental auditing ((eam2)	0	0.0	3	7.3	8	19.5	16	39.0	14	34.1
Environmental monitoring (eam3)	1	2.4	2	4.9	9	22.0	20	48.8	9	22.0
Sanctions deter future pollution (eam4)	2	4.9	2	4.9	6	14.6	14	34.1	17	41.5
CSR alignment with impacts preferred (csria1)	2	4.9	2	4.9	10	24.4	13	31.7	14	34.1
Alignment addresses pollution impacts directly (csria2)	1	2.4	4	9.8	7	17.1	20	48.8	9	22.0
Alignment deters future pollution (csria3)	9	22.0	9	22.0	6	14.6	9	22.0	8	19.5
Alignment guides impacts mitigation evaluation (csria4)	2	4.9	3	7.3	6	14.6	12	29.3	18	43.9
Beliefs about consequences of unacceptable performance (cbi1)	0	0.0	4	9.8	2	4.9	13	31.7	22	53.7
Effectiveness of external pressure (cbi2)	0	0.0	2	4.9	7	17.1	22	53.7	10	24.4
Corporate perception of world-view (cbi3)	0	0.0	3	7.3	5	12.2	13	31.7	20	48.8
Environmental proactivity (cces1)	0	0.0	4	9.8	5	12.2	5	12.2	27	65.9
Beyond requirements performance (cces2)	0	0.0	3	7.3	5	12.2	15	36.6	18	43.9
Compensating for undue pollution (cces3)	9	22.0	6	14.6	6	14.6	11	26.8	9	22.0
Timely response to pollution incidence (cces4)	0	0.0	4	9.8	5	12.2	17	41.5	15	36.6

SD = strongly disagree, D = disagree, NAND = neither agree nor disagree, A = agree, SA = strongly agree, F = frequency

3B: Frequency of Responses from Communities/NGOs *(N = 122)*

Level of awareness

Item	NAA		SLA		SWA		MA		VMA	
	F	%	F	%	F	%	F	%	F	%
Declined farming activities (apepr1)	15	12.3	17	13.9	5	4.1	11	9	74	60.7
Polluted atmospheric air (apepr2)	4	3.3	5	4.1	3	2.5	7	5.7	103	84.4
Polluted drinkable water (apepr3)	6	4.9	5	4.1	2	1.6	20	16.4	89	73
Degraded ecosystem (apepr4)	1	.8	9	7.4	3	2.5	16	13.1	93	76.2
Grief for uncleaned oil spills (apepr5)	16	13.1	11	9	6	4.9	12	9.8	77	63.1

NAA = Not at all aware, SLA = slightly aware, SWA = somewhat aware, MA = Moderately aware, VMA = very much aware

Extent of Agreement with the statements

Item	SD		D		NAND		A		SA	
	F	%	F	%	F	%	F	%	F	%
Oil facilities vandalization (cnab1)	8	6.6	20	16.4	16	13.1	45	36.9	33	27.0
Access blocking (cnab2)	3	2.5	9	7.4	10	8.2	40	32.8	60	49.2
Struggle for resource control (cnab3)	3	2.5	5	4.1	9	7.4	52	42.6	53	43.4
Demonstration of grievances (cnab4)	3	2.5	7	5.7	6	4.9	26	21.3	80	65.6
Importance of environmental impacts transparency (teii1)	5	4.1	9	7.4	7	5.7	18	14.8	83	68.0
EIA as basis for informed consent (teii2)	5	4.1	5	4.1	11	9.0	25	20.5	76	62.3
Regards to informed consent expected (teii3)	11	9.0	8	6.6	10	8.2	24	19.7	69	56.6
Stakeholder pressure for transparency (teii4)	6	4.9	5	4.1	9	7.4	25	20.5	77	63.1
Visibility of non-compliance (npnid1)	4	3.3	3	2.5	15	12.3	32	26.2	68	55.7
Grievances for negligence (npnid2)	0	0.0	8	6.6	10	8.2	35	28.7	69	56.6
Lack of accountability (npnid3)	1	.8	3	2.5	14	11.5	28	23.0	76	62.3
Stakeholder engagement in standards setting (eam1)	0	0.0	5	4.1	10	8.2	43	35.2	64	52.5
Environmental auditing ((eam2)	0	0.0	5	4.1	11	9.0	27	22.1	79	64.8
Environmental monitoring (eam3)	0	0.0	5	4.1	16	13.1	61	50.0	40	32.8
Sanctions deter future pollution (eam4)	0	0.0	6	4.9	4	3.3	47	38.5	65	53.3
CSR alignment with impacts preferred (csria1)	1	.8	10	8.2	19	15.6	36	29.5	56	45.9
Alignment addresses pollution impacts directly (csria2)	0	0.0	4	3.3	26	21.3	45	36.9	47	38.5
Alignment deters future pollution (csria3)	11	9.0	16	13.1	17	13.9	33	27.0	45	36.9
Alignment guides impacts mitigation evaluation (csria4)	3	2.5	4	3.3	11	9.0	36	29.5	68	55.7
Beliefs about consequences of unacceptable performance (cbi1)	2	1.6	10	8.2	6	4.9	50	41.0	54	44.3
Effectiveness of external pressure (cbi2)	4	3.3	8	6.6	11	9.0	59	48.4	40	32.8
Corporate perception of world-view (cbi3)	3	2.5	8	6.6	10	8.2	56	45.9	45	36.9
Environmental proactivity (cces1)	2	1.6	4	3.3	5	4.1	15	12.3	96	78.7
Beyond requirements performance (cces2)	1	.8	5	4.1	7	5.7	42	34.4	67	54.9
Compensating for undue pollution (cces3)	21	17.7	6	4.9	8	6.6	42	34.4	45	36.9
Timely response to pollution incidence (cces4)	1	.8	7	5.7	9	7.4	41	33.6	64	52.5

SD = strongly disagree, D = disagree, NAND = neither agree nor disagree, A = agree, SA = strongly agree, F = frequency

3C: Summary of Frequency of Responses from Experts *(N = 139)*

Level of awareness

Item	NAA		SLA		SWA		MA		VMA	
	F	%	F	%	F	%	F	%	F	%
Declined farming activities (apepr1)	9	6.5	7	5.0	6	4.3	21	15.1	96	69.1
Polluted atmospheric air (apepr2)	3	2.2	7	5.0	8	5.8	29	20.9	92	66.2
Polluted drinkable water (apepr3)	4	2.9	11	7.9	6	4.3	39	28.1	79	56.8
Degraded ecosystem (apepr4)	3	2.2	11	7.9	5	3.6	27	19.4	93	66.9
Grief for uncleaned oil spills (apepr5)	9	6.5	77	5.0	12	8.6	28	20.1	83	59.7

NAA = Not at all aware, SLA = slightly aware, SWA = somewhat aware, MA = Moderately aware, VMA = very much aware

Extent of Agreement with the statements

Item	SD		D		NAND		A		SA	
	F	%	F	%	F	%	F	%	F	%
Oil facilities vandalization (cnab1)	18	12.9	21	15.1	8	5.8	28	20.1	64	46.0
Access blocking (cnab2)	2	1.4	13	9.4	11	7.9	32	23.0	81	58.3
Struggle for resource control (cnab3)	6	4.3	9	6.5	9	6.5	34	24.5	81	58.3
Demonstration of grievances (cnab4)	5	3.6	8	5.8	7	5.0	28	20.1	91	65.5
Importance of environmental impacts transparency (teii1)	4	2.9	8	5.8	2	1.4	25	18.0	100	71.9
EIA as basis for informed consent (teii2)	3	2.2	5	3.6	10	7.2	38	27.3	83	59.7
Regards to informed consent expected (teii3)	10	7.2	14	10.1	9	6.5	45	32.4	61	43.9
Stakeholder pressure for transparency (teii4)	3	2.2	9	6.5	9	6.5	33	23.7	85	61.2
Visibility of non-compliance (npnid1)	5	3.6	9	6.5	9	6.5	38	27.3	78	56.1
Grievances for negligence (npnid2)	5	3.6	6	4.3	9	6.5	45	32.4	74	53.2
Lack of accountability (npnid3)	4	2.9	7	5.0	10	7.2	34	24.5	84	60.4

Stakeholder engagement in standards setting (eam1)	4	2.9	7	5.0	8	5.8	27	19.4	93	66.9
Environmental auditing ((eam2)	7	5.0	3	2.2	8	5.8	35	25.2	86	61.9
Environmental monitoring (eam3)	1	.7	9	6.5	14	10.1	37	26.6	78	56.1
Sanctions deter future pollution (eam4)	2	1.4	11	7.9	8	5.8	27	19.4	91	65.5
CSR alignment with impacts preferred (csria1)	0	0.0	10	7.2	8	5.8	27	19.4	94	67.6
Alignment addresses pollution impacts directly (csria2)	2	1.4	3	2.2	10	7.2	35	25.2	89	64.0
Alignment deters future pollution (csria3)	30	21.6	32	23.0	6	4.3	22	15.8	49	35.3
Alignment guides impacts mitigation evaluation (csria4)	3	2.2	5	3.6	6	4.3	38	27.3	87	62.6
Beliefs about consequences of unacceptable performance (cbi1)	3	2.2	12	8.6	6	4.3	42	30.2	76	54.7
Effectiveness of external pressure (cbi2)	4	2.9	7	5.0	15	10.8	42	30.2	71	51.1
Corporate perception of world-view (cbi3)	5	3.6	11	7.9	11	7.9	44	31.7	68	48.9
Environmental proactivity (cces1)	3	2.2	11	7.9	6	4.3	21	15.1	98	70.5
Beyond requirements performance (cces2)	5	3.6	6	4.3	11	7.9	33	23.7	84	60.4
Compensating for undue pollution (cces3)	13	9.4	11	7.9	14	10.1	38	27.3	63	45.3
Timely response to pollution incidence (cces4)	2	1.4	12	8.6	9	6.5	31	22.3	85	61.2

SD = strongly disagree, D = disagree, NAND = neither agree nor disagree, A = agree, SA = strongly agree, F = frequency

3D: Output of frequency of responses from respective groups

3D(i): Oil Companies frequency or responses

Environmental risk awareness

Statistics

		Declined farming activities (apepr1)	Polluted atmospheric air apepr2)	Polluted drinkable water (apepr3)	Degraded ecosystem (apepr4)	Uncleansed oil spills
N	Valid	41	41	41	41	41
	Missing	0	0	0	0	0
Mean		3.7805	4.1951	4.3659	4.2195	3.5854
Std. Error of Mean		.20216	.16828	.13415	.16569	.24439
Median		4.0000	5.0000	5.0000	5.0000	4.0000
Mode		5.00	5.00	5.00	5.00	5.00
Std. Deviation		1.29445	1.07749	.85896	1.06095	1.56486
Skewness		-.660	-1.166	-1.302	-1.124	-.619
Std. Error of Skewness		.369	.369	.369	.369	.369
Kurtosis		-.862	.568	1.058	-.058	-1.218
Std. Error of Kurtosis		.724	.724	.724	.724	.724
Percentiles	25	3.0000	3.0000	4.0000	4.0000	2.0000
	50	4.0000	5.0000	5.0000	5.0000	4.0000
	75	5.0000	5.0000	5.0000	5.0000	5.0000

Declined farming activities (apepr1)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not at all aware	2	4.9	4.9	4.9
	Slightly aware	7	17.1	17.1	22.0
	Somewhat aware	6	14.6	14.6	36.6
	Moderately aware	9	22.0	22.0	58.5
	Very much aware	17	41.5	41.5	100.0
	Total	41	100.0	100.0	

Polluted atmospheric air apepr2)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not at all aware	1	2.4	2.4	2.4
	Slightly aware	2	4.9	4.9	7.3
	Somewhat aware	8	19.5	19.5	26.8

		Frequency	Percent	Valid Percent	Cumulative Percent
	Moderately aware	7	17.1	17.1	43.9
	Very much aware	23	56.1	56.1	100.0
	Total	41	100.0	100.0	

Polluted drinkable water (apepr3)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Slightly aware	2	4.9	4.9	4.9
	Somewhat aware	4	9.8	9.8	14.6
	Moderately aware	12	29.3	29.3	43.9
	Very much	23	56.1	56.1	100.0
	Total	41	100.0	100.0	

Degraded ecosystem (apepr4)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Slightly aware	5	12.2	12.2	12.2
	Somewhat aware	4	9.8	9.8	22.0
	Moderately aware	9	22.0	22.0	43.9
	Very much aware	23	56.1	56.1	100.0
	Total	41	100.0	100.0	

Uncleansed oil spills (apepr5)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not at all aware	7	17.1	17.1	17.1
	Slightly aware	5	12.2	12.2	29.3
	Somewhat aware	4	9.8	9.8	39.0
	Moderately aware	7	17.1	17.1	56.1
	Very much aware	18	43.9	43.9	100.0
	Total	41	100.0	100.0	

Community reaction

Statistics

		Oil facilities vandalization (cnab1)	Access blocking (cnab2)	Struggle for resource control (cnab3)	Demonstration of grievances (cnab4)
N	Valid	41	41	41	41
	Missing	0	0	0	0
Mean		3.2195	4.0488	4.1220	4.0000
Std. Error of Mean		.22227	.15598	.12195	.17807
Median		4.0000	4.0000	4.0000	4.0000
Mode		4.00	5.00	4.00	5.00
Std. Deviation		1.42324	.99878	.78087	1.14018
Skewness		-.299	-1.051	-.883	-.957
Std. Error of Skewness		.369	.369	.369	.369
Kurtosis		-1.255	.941	1.028	-.076
Std. Error of Kurtosis		.724	.724	.724	.724
Percentiles	25	2.0000	3.5000	4.0000	3.0000
	50	4.0000	4.0000	4.0000	4.0000
	75	4.0000	5.0000	5.0000	5.0000

Oil facilities vandalization (cnab1)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	7	17.1	17.1	17.1
	Disagree	7	17.1	17.1	34.1
	Neither agree nor disagree	6	14.6	14.6	48.8
	Agree	12	29.3	29.3	78.0
	Strongly agree	9	22.0	22.0	100.0

		Frequency	Percent	Valid Percent	Cumulative Percent
	Total	41	100.0	100.0	

Access blocking (cnab2)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	1	2.4	2.4	2.4
	Disagree	2	4.9	4.9	7.3
	Neither agree nor disagree	7	17.1	17.1	24.4
	Agree	15	36.6	36.6	61.0
	Strongly agree	16	39.0	39.0	100.0
	Total	41	100.0	100.0	

Struggle for resource control (cnab3)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	2	4.9	4.9	4.9
	Neither agree nor disagree	4	9.8	9.8	14.6
	Agree	22	53.7	53.7	68.3
	Strongly agree	13	31.7	31.7	100.0
	Total	41	100.0	100.0	

Demonstration of grievances (cnab4)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disgree	1	2.4	2.4	2.4
	Disgree	5	12.2	12.2	14.6
	Neither agree nor disagree	5	12.2	12.2	26.8
	Agree	12	29.3	29.3	56.1
	Strongly disagree	18	43.9	43.9	100.0
	Total	41	100.0	100.0	

Transparency

Statistics

		Importance of environmental impacts transparency (teii1)	EIA as basis for informed consent (teii2)	Regards to informed consent expected (teii3)	Stakeholder pressure for transparency (teii4)
N	Valid	41	41	41	41
	Missing	0	0	0	0
Mean		4.1707	4.1220	3.5610	4.0488
Std. Error of Mean		.13926	.14896	.21256	.16361
Median		4.0000	4.0000	4.0000	4.0000
Mode		4.00[a]	5.00	4.00	5.00
Std. Deviation		.89170	.95381	1.36104	1.04765
Skewness		-1.019	-.981	-.823	-1.061
Std. Error of Skewness		.369	.369	.369	.369
Kurtosis		.537	.185	-.495	.630
Std. Error of Kurtosis		.724	.724	.724	.724
Percentiles	25	4.0000	4.0000	3.0000	3.5000
	50	4.0000	4.0000	4.0000	4.0000
	75	5.0000	5.0000	5.0000	5.0000

a. Multiple modes exist. The smallest value is shown

Importance of environmental impacts transparency (teii1)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	3	7.3	7.3	7.3
	Neither agree nor disagree	4	9.8	9.8	17.1
	Agree	17	41.5	41.5	58.5
	Strongly agree	17	41.5	41.5	100.0
	Total	41	100.0	100.0	

EIA as basis for informed consent (teii2)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	4	9.8	9.8	9.8
	Neither agree nor disagree	4	9.8	9.8	19.5
	Agree	16	39.0	39.0	58.5
	Strongly disagree	17	41.5	41.5	100.0
	Total	41	100.0	100.0	

Regards to informed consent expected (teii3)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	6	14.6	14.6	14.6
	Disagree	3	7.3	7.3	22.0
	Neither agree nor disagree	5	12.2	12.2	34.1
	Agree	16	39.0	39.0	73.2
	Strongly agree	11	26.8	26.8	100.0
	Total	41	100.0	100.0	

Stakeholder pressure for transparency (teii4)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	1	2.4	2.4	2.4
	Disagree	3	7.3	7.3	9.8
	Neither agree nor disagree	6	14.6	14.6	24.4
	Agree	14	34.1	34.1	58.5
	Strongly agree	17	41.5	41.5	100.0
	Total	41	100.0	100.0	

Non-Compliance

Statistics

		Visibility of non-compliance (npnid1)	Grievances for negligence (npnid2)	Lack of accountability (npnid3)
N	Valid	41	41	41
	Missing	0	0	0
Mean		3.9756	4.3415	4.2683
Std. Error of Mean		.16560	.14654	.15232
Median		4.0000	5.0000	5.0000
Mode		4.00	5.00	5.00
Std. Deviation		1.06037	.93834	.97530
Skewness		-1.008	-1.709	-1.258
Std. Error of Skewness		.369	.369	.369
Kurtosis		.446	3.212	.614
Std. Error of Kurtosis		.724	.724	.724
Percentiles	25	3.5000	4.0000	4.0000
	50	4.0000	5.0000	5.0000
	75	5.0000	5.0000	5.0000

Visibility of non-compliance (npnid1)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	1	2.4	2.4	2.4
	Disagree	4	9.8	9.8	12.2
	Neither agree nor disagree	5	12.2	12.2	24.4
	Agree	16	39.0	39.0	63.4
	Strongly agree	15	36.6	36.6	100.0
	Total	41	100.0	100.0	

Grievances for negligence (npnid2)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	1	2.4	2.4	2.4
	Disagree	1	2.4	2.4	4.9
	Neither agree nor disagree	4	9.8	9.8	14.6

	Agree	12	29.3	29.3	43.9
	Strongly agree	23	56.1	56.1	100.0
	Total	41	100.0	100.0	

Lack of accountability (npnid3)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	4	9.8	9.8	9.8
	Neither agree bor disagree	3	7.3	7.3	17.1
	Agree	12	29.3	29.3	46.3
	Strongly agree	22	53.7	53.7	100.0
	Total	41	100.0	100.0	

Accountability

Statistics

		Stakeholder engagement in standards setting (eam1)	Environmental auditing (eam2)	Environmental monitoring (eam3)	Sanctions deter future pollution (eam4)
N	Valid	41	41	41	41
	Missing	0	0	0	0
Mean		3.9024	4.0000	3.8293	4.0244
Std. Error of Mean		.17740	.14399	.14357	.17281
Median		4.0000	4.0000	4.0000	4.0000
Mode		5.00	4.00	4.00	5.00
Std. Deviation		1.13589	.92195	.91931	1.10652
Skewness		-.984	-.604	-.862	-1.214
Std. Error of Skewness		.369	.369	.369	.369
Kurtosis		.384	-.424	1.139	1.081
Std. Error of Kurtosis		.724	.724	.724	.724
Percentiles	25	3.0000	3.0000	3.0000	3.5000
	50	4.0000	4.0000	4.0000	4.0000
	75	5.0000	5.0000	4.0000	5.0000

Stakeholder engagement in standards setting (eam1)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	2	4.9	4.9	4.9
	Disagree	3	7.3	7.3	12.2
	Neither agree nor disagree	7	17.1	17.1	29.3
	Agree	14	34.1	34.1	63.4
	Strongly agree	15	36.6	36.6	100.0
	Total	41	100.0	100.0	

Environmental auditing (eam2)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	3	7.3	7.3	7.3
	Neither agree nor disagree	8	19.5	19.5	26.8
	Agree	16	39.0	39.0	65.9
	Strongly agree	14	34.1	34.1	100.0
	Total	41	100.0	100.0	

Environmental monitoring (eam3)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	1	2.4	2.4	2.4
	Disagree	2	4.9	4.9	7.3
	Neither agree nor disagree	9	22.0	22.0	29.3
	Agree	20	48.8	48.8	78.0
	Strongly agree	9	22.0	22.0	100.0
	Total	41	100.0	100.0	

Sanctions deter future pollution (eam4)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	2	4.9	4.9	4.9
	Disagree	2	4.9	4.9	9.8
	Neither agree nor disagree	6	14.6	14.6	24.4
	Agree	14	34.1	34.1	58.5
	Strongly agree	17	41.5	41.5	100.0
	Total	41	100.0	100.0	

CSR Alignment

Statistics

		CSR alignment with impacts preferred (csria1)	Alignment addresses pollution impacts directly (csria2)	Alignment deters future pollution (csria3)	Alignment guides impacts mitigation evaluation (csria4)
N	Valid	41	41	41	41
	Missing	0	0	0	0
Mean		3.8537	3.7805	2.9512	4.0000
Std. Error of Mean		.17307	.15426	.22887	.18146
Median		4.0000	4.0000	3.0000	4.0000
Mode		5.00	4.00	1.00[a]	5.00
Std. Deviation		1.10817	.98773	1.46546	1.16190
Skewness		-.856	-.842	.038	-1.106
Std. Error of Skewness		.369	.369	.369	.369
Kurtosis		.339	.500	-1.414	.491
Std. Error of Kurtosis		.724	.724	.724	.724
Percentiles	25	3.0000	3.0000	2.0000	3.0000
	50	4.0000	4.0000	3.0000	4.0000
	75	5.0000	4.0000	4.0000	5.0000

a. Multiple modes exist. The smallest value is shown

CSR alignment with impacts preferred (csria1)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	2	4.9	4.9	4.9
	Disagree	2	4.9	4.9	9.8
	Neither agree nor disagree	10	24.4	24.4	34.1
	Agree	13	31.7	31.7	65.9
	Strongly agree	14	34.1	34.1	100.0
	Total	41	100.0	100.0	

Alignment addresses pollution impacts directly (csria2)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	1	2.4	2.4	2.4
	Disagree	4	9.8	9.8	12.2
	Neither agree nor disagree	7	17.1	17.1	29.3
	Agree	20	48.8	48.8	78.0
	Strongly agree	9	22.0	22.0	100.0
	Total	41	100.0	100.0	

Alignment deters future pollution (csria3)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	9	22.0	22.0	22.0
	disagree	9	22.0	22.0	43.9
	Neither agree nor disagree	6	14.6	14.6	58.5
	Agree	9	22.0	22.0	80.5
	Strongly agree	8	19.5	19.5	100.0
	Total	41	100.0	100.0	

Alignment guides impacts mitigation evaluation (csria4)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	2	4.9	4.9	4.9
	Disagree	3	7.3	7.3	12.2
	Neither agree nor disagree	6	14.6	14.6	26.8
	Agree	12	29.3	29.3	56.1
	Strongly agree	18	43.9	43.9	100.0
	Total	41	100.0	100.0	

Intention

Statistics

		Beliefs about consequences of poor performance (cbi1)	Effectiveness of external pressure (cbi2)	Corporate perception of world-view (cbi3)
N	Valid	41	41	41
	Missing	0	0	0
Mean		4.2927	3.9756	4.2195
Std. Error of Mean		.14916	.12341	.14614
Median		5.0000	4.0000	4.0000
Mode		5.00	4.00	5.00
Std. Deviation		.95509	.79018	.93574
Skewness		-1.359	-.595	-1.042
Std. Error of Skewness		.369	.369	.369
Kurtosis		1.010	.324	.221
Std. Error of Kurtosis		.724	.724	.724
Percentiles	25	4.0000	4.0000	4.0000
	50	5.0000	4.0000	4.0000
	75	5.0000	4.5000	5.0000

Beliefs about consequences of poor performance (cbi1)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	4	9.8	9.8	9.8
	Neither agree nor disagree	2	4.9	4.9	14.6
	Agree	13	31.7	31.7	46.3
	Strongly agree	22	53.7	53.7	100.0
	Total	41	100.0	100.0	

Effectiveness of external pressure (cbi2)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	2	4.9	4.9	4.9
	Neither agree nor disagree	7	17.1	17.1	22.0
	Agree	22	53.7	53.7	75.6
	Strongly agree	10	24.4	24.4	100.0
	Total	41	100.0	100.0	

Corporate perception of world-view (cbi3)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	3	7.3	7.3	7.3
	Neither agree nor disagree	5	12.2	12.2	19.5
	Agree	13	31.7	31.7	51.2
	Strongly agree	20	48.8	48.8	100.0
	Total	41	100.0	100.0	

Commitment

Statistics

		Environmental proactivity (cces1)	Beyond requirements performance (cces2)	Compensating for undue pollution (cces3)	Timely response to pollution incidence (cces4)
N	Valid	41	41	41	41

	Missing	0	0	0	0
Mean		4.3415	4.1707	3.1220	4.0488
Std. Error of Mean		.16234	.14357	.23216	.14796
Median		5.0000	4.0000	3.0000	4.0000
Mode		5.00	5.00	4.00	4.00
Std. Deviation		1.03947	.91931	1.48652	.94740
Skewness		-1.308	-.965	-.219	-.842
Std. Error of Skewness		.369	.369	.369	.369
Kurtosis		.284	.199	-1.392	-.037
Std. Error of Kurtosis		.724	.724	.724	.724
Percentiles	25	4.0000	4.0000	2.0000	4.0000
	50	5.0000	4.0000	3.0000	4.0000
	75	5.0000	5.0000	4.0000	5.0000

Environmental proactivity (cces1)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	4	9.8	9.8	9.8
	Neither agree nor disagree	5	12.2	12.2	22.0
	Agree	5	12.2	12.2	34.1
	Strongly agree	27	65.9	65.9	100.0
	Total	41	100.0	100.0	

Beyond requirements performance (cces2)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	3	7.3	7.3	7.3
	Neither agree nor disagree	5	12.2	12.2	19.5
	Agree	15	36.6	36.6	56.1
	Strongly agree	18	43.9	43.9	100.0
	Total	41	100.0	100.0	

Compensating for undue pollution (cces3)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	9	22.0	22.0	22.0
	Disagree	6	14.6	14.6	36.6
	Neither agree nor disagree	6	14.6	14.6	51.2
	Agree	11	26.8	26.8	78.0
	Strongly agree	9	22.0	22.0	100.0
	Total	41	100.0	100.0	

Timely response to pollution incidence (cces4)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	4	9.8	9.8	9.8
	Neither agree nor disagree	5	12.2	12.2	22.0
	Agree	17	41.5	41.5	63.4
	Strongly agree	15	36.6	36.6	100.0
	Total	41	100.0	100.0	

3D(ii): Community & NGOs frequency of responses

Environmental risk awareness

Statistics

		Declined farming activities (apepr1)	Polluted atmospheric air apepr2)	Polluted drinkable water (apepr3)	Degraded ecosystem (apepr4)	Uncleansed oil spills
N	Valid	122	122	122	122	122
	Missing	0	0	0	0	0
Mean		3.9180	4.6393	4.4836	4.5656	4.0082
Median		5.0000	5.0000	5.0000	5.0000	5.0000
Mode		5.00	5.00	5.00	5.00	5.00

Std. Deviation		1.52440	.96265	1.06199	.91803	1.49653
Skewness		-.955	-2.778	-2.292	-2.216	-1.142
Std. Error of Skewness		.219	.219	.219	.219	.219
Kurtosis		-.788	6.723	4.373	3.949	-.358
Std. Error of Kurtosis		.435	.435	.435	.435	.435
Percentiles	25	2.0000	5.0000	4.0000	5.0000	3.0000
	50	5.0000	5.0000	5.0000	5.0000	5.0000
	75	5.0000	5.0000	5.0000	5.0000	5.0000

Frequency Table

Declined farming activities (apepr1)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not at all aware	15	12.3	12.3	12.3
	Slightly aware	17	13.9	13.9	26.2
	Somewhat aware	5	4.1	4.1	30.3
	Moderately aware	11	9.0	9.0	39.3
	Very much aware	74	60.7	60.7	100.0
	Total	122	100.0	100.0	

Polluted atmospheric air apepr2)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not at all aware	4	3.3	3.3	3.3
	Slightly aware	5	4.1	4.1	7.4
	Somewhat aware	3	2.5	2.5	9.8
	Moderately aware	7	5.7	5.7	15.6
	Very much aware	103	84.4	84.4	100.0
	Total	122	100.0	100.0	

Polluted drinkable water (apepr3)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not at all awre	6	4.9	4.9	4.9
	Slightly aware	5	4.1	4.1	9.0
	Somewhat aware	2	1.6	1.6	10.7
	Moderately aware	20	16.4	16.4	27.0
	Very much	89	73.0	73.0	100.0
	Total	122	100.0	100.0	

Degraded ecosystem (apepr4)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not at all aware	1	.8	.8	.8
	Slightly aware	9	7.4	7.4	8.2
	Somewhat aware	3	2.5	2.5	10.7
	Moderately aware	16	13.1	13.1	23.8
	Very much aware	93	76.2	76.2	100.0
	Total	122	100.0	100.0	

Uncleansed oil spills (apepr5)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not at all aware	16	13.1	13.1	13.1
	Slightly aware	11	9.0	9.0	22.1
	Somewhat aware	6	4.9	4.9	27.0
	Moderately aware	12	9.8	9.8	36.9
	Very much aware	77	63.1	63.1	100.0
	Total	122	100.0	100.0	

Community Reaction

Statistics

		Oil facilities vandalization (cnab1)	Access blocking (cnab2)	Struggle for resource control (cnab3)	Demonstration of grievances (cnab4)
N	Valid	122	122	122	122
	Missing	0	0	0	0
Mean		3.6148	4.1885	4.2049	4.4180
Median		4.0000	4.0000	4.0000	5.0000
Mode		4.00	5.00	5.00	5.00
Std. Deviation		1.22944	1.03118	.92655	.99453
Skewness		-.636	-1.353	-1.499	-1.896
Std. Error of Skewness		.219	.219	.219	.219
Kurtosis		-.663	1.245	2.521	2.987
Std. Error of Kurtosis		.435	.435	.435	.435
Percentiles	25	3.0000	4.0000	4.0000	4.0000
	50	4.0000	4.0000	4.0000	5.0000
	75	5.0000	5.0000	5.0000	5.0000

Frequency Table

Oil facilities vandalization (cnab1)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	8	6.6	6.6	6.6
	Disagree	20	16.4	16.4	23.0
	Neither agree nor disagree	16	13.1	13.1	36.1
	Agree	45	36.9	36.9	73.0
	Strongly agree	33	27.0	27.0	100.0
	Total	122	100.0	100.0	

Access blocking (cnab2)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	3	2.5	2.5	2.5
	Disagree	9	7.4	7.4	9.8
	Neither agree nor disagree	10	8.2	8.2	18.0
	Agree	40	32.8	32.8	50.8
	Strongly agree	60	49.2	49.2	100.0
	Total	122	100.0	100.0	

Struggle for resource control (cnab3)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	3	2.5	2.5	2.5
	Disagree	5	4.1	4.1	6.6
	Neither agree nor disagree	9	7.4	7.4	13.9
	Agree	52	42.6	42.6	56.6
	Strongly agree	53	43.4	43.4	100.0
	Total	122	100.0	100.0	

Demonstration of grievances (cnab4)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disgree	3	2.5	2.5	2.5
	Disgree	7	5.7	5.7	8.2
	Neither agree nor disagree	6	4.9	4.9	13.1
	Agree	26	21.3	21.3	34.4
	Strongly disagree	80	65.6	65.6	100.0
	Total	122	100.0	100.0	

Transparency

Statistics

		Importance of environmental impacts transparency (teii1)	EIA as basis for informed consent (teii2)	Regards to informed consent expected (teii3)	Stakeholder pressure for transparency (teii4)
N	Valid	122	122	122	122
	Missing	0	0	0	0
Mean		4.3525	4.3279	4.0820	4.3279
Median		5.0000	5.0000	5.0000	5.0000
Mode		5.00	5.00	5.00	5.00
Std. Deviation		1.13489	1.07136	1.31482	1.10178
Skewness		-1.731	-1.714	-1.307	-1.776
Std. Error of Skewness		.219	.219	.219	.219
Kurtosis		1.874	2.264	.427	2.386
Std. Error of Kurtosis		.435	.435	.435	.435
Percentiles	25	4.0000	4.0000	4.0000	4.0000
	50	5.0000	5.0000	5.0000	5.0000
	75	5.0000	5.0000	5.0000	5.0000

Frequency Table

Importance of environmental impacts transparency (teii1)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	5	4.1	4.1	4.1
	Disagree	9	7.4	7.4	11.5
	Neither agree nor disagree	7	5.7	5.7	17.2
	Agree	18	14.8	14.8	32.0
	Strongly agree	83	68.0	68.0	100.0
	Total	122	100.0	100.0	

EIA as basis for informed consent (teii2)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	5	4.1	4.1	4.1
	Disagree	5	4.1	4.1	8.2
	Neither agree nor disagree	11	9.0	9.0	17.2
	Agree	25	20.5	20.5	37.7
	Strongly disagree	76	62.3	62.3	100.0
	Total	122	100.0	100.0	

Regards to informed consent expected (teii3)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	11	9.0	9.0	9.0
	Disagree	8	6.6	6.6	15.6
	Neither agree nor disagree	10	8.2	8.2	23.8
	Agree	24	19.7	19.7	43.4
	Strongly agree	69	56.6	56.6	100.0
	Total	122	100.0	100.0	

Stakeholder pressure for transparency (teii4)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	6	4.9	4.9	4.9
	Disagree	5	4.1	4.1	9.0
	Neither agree nor disagree	9	7.4	7.4	16.4
	Agree	25	20.5	20.5	36.9
	Strongly agree	77	63.1	63.1	100.0
	Total	122	100.0	100.0	

Non-compliance

Statistics

		Visibility of non-compliance (npnid1)	Grievances for negligence (npnid2)	Lack of accountability (npnid3)
N	Valid	122	122	122
	Missing	0	0	0
Mean		4.2869	4.3525	4.4344
Median		5.0000	5.0000	5.0000
Mode		5.00	5.00	5.00
Std. Deviation		.99983	.89000	.85268
Skewness		-1.563	-1.331	-1.540
Std. Error of Skewness		.219	.219	.219
Kurtosis		2.207	.954	2.059
Std. Error of Kurtosis		.435	.435	.435
Percentiles	25	4.0000	4.0000	4.0000
	50	5.0000	5.0000	5.0000
	75	5.0000	5.0000	5.0000

Visibility of non-compliance (npnid1)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	4	3.3	3.3	3.3
	Disagree	3	2.5	2.5	5.7
	Neither agree nor disagree	15	12.3	12.3	18.0
	Agree	32	26.2	26.2	44.3
	Strongly agree	68	55.7	55.7	100.0
	Total	122	100.0	100.0	

Grievances for negligence (npnid2)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	8	6.6	6.6	6.6
	Neither agree nor disagree	10	8.2	8.2	14.8
	Agree	35	28.7	28.7	43.4
	Strongly agree	69	56.6	56.6	100.0
	Total	122	100.0	100.0	

Lack of accountability (npnid3)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	1	.8	.8	.8
	Disagree	3	2.5	2.5	3.3
	Neither agree bor disagree	14	11.5	11.5	14.8
	Agree	28	23.0	23.0	37.7
	Strongly agree	76	62.3	62.3	100.0
	Total	122	100.0	100.0	

Accountability

Statistics

		Stakeholder engagement in standards setting (eam1)	Environmental auditing (eam2)	Environmental monitoring (eam3)	Sanctions deter future pollution (eam4)
N	Valid	122	122	122	122
	Missing	0	0	0	0
Mean		4.3607	4.4754	4.1148	4.4016
Median		5.0000	5.0000	4.0000	5.0000
Mode		5.00	5.00	4.00	5.00
Std. Deviation		.80356	.82535	.78411	.77843
Skewness		-1.235	-1.534	-.728	-1.483
Std. Error of Skewness		.219	.219	.219	.219
Kurtosis		1.110	1.551	.354	2.237

Std. Error of Kurtosis		.435	.435	.435	.435
Percentiles	25	4.0000	4.0000	4.0000	4.0000
	50	5.0000	5.0000	4.0000	5.0000
	75	5.0000	5.0000	5.0000	5.0000

Stakeholder engagement in standards setting (eam1)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	5	4.1	4.1	4.1
	Neither agree nor disagree	10	8.2	8.2	12.3
	Agree	43	35.2	35.2	47.5
	Strongly agree	64	52.5	52.5	100.0
	Total	122	100.0	100.0	

Environmental auditing (eam2)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	5	4.1	4.1	4.1
	Neither agree nor disagree	11	9.0	9.0	13.1
	Agree	27	22.1	22.1	35.2
	Strongly agree	79	64.8	64.8	100.0
	Total	122	100.0	100.0	

Environmental monitoring (eam3)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	5	4.1	4.1	4.1
	Neither agree nor disagree	16	13.1	13.1	17.2
	Agree	61	50.0	50.0	67.2
	Strongly agree	40	32.8	32.8	100.0
	Total	122	100.0	100.0	

Sanctions deter future pollution (eam4)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	6	4.9	4.9	4.9
	Neither agree nor disagree	4	3.3	3.3	8.2
	Agree	47	38.5	38.5	46.7
	Strongly agree	65	53.3	53.3	100.0
	Total	122	100.0	100.0	

CSR Alignment

Statistics

		CSR alignment with impacts preferred (csria1)	Alignment addresses pollution impacts directly (csria2)	Alignment deters future pollution (csria3)	Alignment guides impacts mitigation evaluation (csria4)
N	Valid	122	122	122	122
	Missing	0	0	0	0
Mean		4.1148	4.1066	3.6967	4.3279
Median		4.0000	4.0000	4.0000	5.0000
Mode		5.00	5.00	5.00	5.00
Std. Deviation		1.00574	.85093	1.32920	.94862
Skewness		-.928	-.534	-.712	-1.648
Std. Error of Skewness		.219	.219	.219	.219
Kurtosis		-.038	-.629	-.715	2.650
Std. Error of Kurtosis		.435	.435	.435	.435
Percentiles	25	3.7500	3.7500	3.0000	4.0000
	50	4.0000	4.0000	4.0000	5.0000
	75	5.0000	5.0000	5.0000	5.0000

CSR alignment with impacts preferred (csria1)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	1	.8	.8	.8
	Disagree	10	8.2	8.2	9.0
	Neither agree nor disagree	19	15.6	15.6	24.6
	Agree	36	29.5	29.5	54.1
	Strongly agree	56	45.9	45.9	100.0
	Total	122	100.0	100.0	

Alignment addresses pollution impacts directly (csria2)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	4	3.3	3.3	3.3
	Neither agree nor disagree	26	21.3	21.3	24.6
	Agree	45	36.9	36.9	61.5
	Strongly agree	47	38.5	38.5	100.0
	Total	122	100.0	100.0	

Alignment deters future pollution (csria3)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	11	9.0	9.0	9.0
	disagree	16	13.1	13.1	22.1
	Neither agree nor disagree	17	13.9	13.9	36.1
	Agree	33	27.0	27.0	63.1
	Strongly agree	45	36.9	36.9	100.0
	Total	122	100.0	100.0	

Alignment guides impacts mitigation evaluation (csria4)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	3	2.5	2.5	2.5
	Disagree	4	3.3	3.3	5.7
	Neither agree nor disagree	11	9.0	9.0	14.8
	Agree	36	29.5	29.5	44.3
	Strongly agree	68	55.7	55.7	100.0
	Total	122	100.0	100.0	

Intention

Statistics

		Beliefs about consequences of poor performance (cbi1)	Effectiveness of external pressure (cbi2)	Corporate perception of world-view (cbi3)
N	Valid	122	122	122
	Missing	0	0	0
Mean		4.1803	4.0082	4.0820
Median		4.0000	4.0000	4.0000
Mode		5.00	4.00	4.00
Std. Deviation		.97078	.99167	.96715
Skewness		-1.363	-1.257	-1.281
Std. Error of Skewness		.219	.219	.219
Kurtosis		1.487	1.484	1.556
Std. Error of Kurtosis		.435	.435	.435
Percentiles	25	4.0000	4.0000	4.0000
	50	4.0000	4.0000	4.0000
	75	5.0000	5.0000	5.0000

Beliefs about consequences of poor performance (cbi1)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	2	1.6	1.6	1.6
	Disagree	10	8.2	8.2	9.8
	Neither agree nor disagree	6	4.9	4.9	14.8

		Frequency	Percent	Valid Percent	Cumulative Percent
	Agree	50	41.0	41.0	55.7
	Strongly agree	54	44.3	44.3	100.0
	Total	122	100.0	100.0	

Effectiveness of external pressure (cbi2)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	4	3.3	3.3	3.3
	Disagree	8	6.6	6.6	9.8
	Neither agree nor disagree	11	9.0	9.0	18.9
	Agree	59	48.4	48.4	67.2
	Strongly agree	40	32.8	32.8	100.0
	Total	122	100.0	100.0	

Corporate perception of world-view (cbi3)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	3	2.5	2.5	2.5
	Disagree	8	6.6	6.6	9.0
	Neither agree nor disagree	10	8.2	8.2	17.2
	Agree	56	45.9	45.9	63.1
	Strongly agree	45	36.9	36.9	100.0
	Total	122	100.0	100.0	

Commitment

Statistics

		Environmental proactivity (cces1)	Beyond requirements performance (cces2)	Compensating for undue pollution (cces3)	Timely response to pollution incidence (cces4)
N	Valid	122	122	122	122
	Missing	0	0	0	0
Mean		4.6311	4.3852	3.6885	4.3115
Median		5.0000	5.0000	4.0000	5.0000
Mode		5.00	5.00	5.00	5.00
Std. Deviation		.84502	.83761	1.44932	.90071
Skewness		-2.636	-1.603	-.930	-1.419
Std. Error of Skewness		.219	.219	.219	.219
Kurtosis		6.785	2.737	-.554	1.694
Std. Error of Kurtosis		.435	.435	.435	.435
Percentiles	25	5.0000	4.0000	3.0000	4.0000
	50	5.0000	5.0000	4.0000	5.0000
	75	5.0000	5.0000	5.0000	5.0000

Environmental proactivity (cces1)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	2	1.6	1.6	1.6
	Disagree	4	3.3	3.3	4.9
	Neither agree nor disagree	5	4.1	4.1	9.0
	Agree	15	12.3	12.3	21.3
	Strongly agree	96	78.7	78.7	100.0
	Total	122	100.0	100.0	

Beyond requirements performance (cces2)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	1	.8	.8	.8
	Disagree	5	4.1	4.1	4.9
	Neither agree nor disagree	7	5.7	5.7	10.7
	Agree	42	34.4	34.4	45.1

		Frequency	Percent	Valid Percent	Cumulative Percent
	Strongly agree	67	54.9	54.9	100.0
	Total	122	100.0	100.0	

Compensating for undue pollution (cces3)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	21	17.2	17.2	17.2
	Disagree	6	4.9	4.9	22.1
	Neither agree nor disagree	8	6.6	6.6	28.7
	Agree	42	34.4	34.4	63.1
	Strongly agree	45	36.9	36.9	100.0
	Total	122	100.0	100.0	

Timely response to pollution incidence (cces4)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	1	.8	.8	.8
	Disagree	7	5.7	5.7	6.6
	Neither agree nor disagree	9	7.4	7.4	13.9
	Agree	41	33.6	33.6	47.5
	Strongly agree	64	52.5	52.5	100.0
	Total	122	100.0	100.0	

3D(iii): Experts frequency of responses

Environmental risk awareness

Statistics

		Declined farming activities (apepr1)	Polluted atmospheric air apepr2)	Polluted drinkable water (apepr3)	Degraded ecosystem (apepr4)	Uncleansed oil spills
N	Valid	139	139	139	139	139
	Missing	0	0	0	0	0
Mean		4.3525	4.4388	4.2806	4.4101	4.2158
Std. Error of Mean		.10050	.08176	.08962	.08713	.10148
Median		5.0000	5.0000	5.0000	5.0000	5.0000
Mode		5.00	5.00	5.00	5.00	5.00
Std. Deviation		1.18483	.96395	1.05658	1.02726	1.19639
Skewness		-1.856	-1.917	-1.594	-1.829	-1.534
Std. Error of Skewness		.206	.206	.206	.206	.206
Kurtosis		2.266	3.172	1.782	2.429	1.326
Std. Error of Kurtosis		.408	.408	.408	.408	.408
Percentiles	25	4.0000	4.0000	4.0000	4.0000	4.0000
	50	5.0000	5.0000	5.0000	5.0000	5.0000
	75	5.0000	5.0000	5.0000	5.0000	5.0000

Declined farming activities (apepr1)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not at all aware	9	6.5	6.5	6.5
	Slightly aware	7	5.0	5.0	11.5
	Somewhat aware	6	4.3	4.3	15.8
	Moderately aware	21	15.1	15.1	30.9
	Very much aware	96	69.1	69.1	100.0
	Total	139	100.0	100.0	

Polluted atmospheric air apepr2)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not at all aware	3	2.2	2.2	2.2
	Slightly aware	7	5.0	5.0	7.2
	Somewhat aware	8	5.8	5.8	12.9
	Moderately aware	29	20.9	20.9	33.8

		Frequency	Percent	Valid Percent	Cumulative Percent
	Very much aware	92	66.2	66.2	100.0
	Total	139	100.0	100.0	

Polluted drinkable water (apepr3)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not at all awre	4	2.9	2.9	2.9
	Slightly aware	11	7.9	7.9	10.8
	Somewhat aware	6	4.3	4.3	15.1
	Moderately aware	39	28.1	28.1	43.2
	Very much	79	56.8	56.8	100.0
	Total	139	100.0	100.0	

Degraded ecosystem (apepr4)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not at all aware	3	2.2	2.2	2.2
	Slightly aware	11	7.9	7.9	10.1
	Somewhat aware	5	3.6	3.6	13.7
	Moderately aware	27	19.4	19.4	33.1
	Very much aware	93	66.9	66.9	100.0
	Total	139	100.0	100.0	

Uncleansed oil spills (apepr5)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not at all aware	9	6.5	6.5	6.5
	Slightly aware	7	5.0	5.0	11.5
	Somewhat aware	12	8.6	8.6	20.1
	Moderately aware	28	20.1	20.1	40.3
	Very much aware	83	59.7	59.7	100.0
	Total	139	100.0	100.0	

Community reaction

Statistics

		Oil facilities vandalization (cnab1)	Access blocking (cnab2)	Struggle for resource control (cnab3)	Demonstration of grievances (cnab4)
N	Valid	139	139	139	139
	Missing	0	0	0	0
Mean		3.7122	4.2734	4.2590	4.3813
Std. Error of Mean		.12640	.08890	.09433	.08983
Median		4.0000	5.0000	5.0000	5.0000
Mode		5.00	5.00	5.00	5.00
Std. Deviation		1.49028	1.04816	1.11211	1.05909
Skewness		-.733	-1.374	-1.588	-1.855
Std. Error of Skewness		.206	.206	.206	.206
Kurtosis		-1.021	.875	1.676	2.650
Std. Error of Kurtosis		.408	.408	.408	.408
Percentiles	25	2.0000	4.0000	4.0000	4.0000
	50	4.0000	5.0000	5.0000	5.0000
	75	5.0000	5.0000	5.0000	5.0000

Oil facilities vandalization (cnab1)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	18	12.9	12.9	12.9
	Disagree	21	15.1	15.1	28.1
	Neither agree nor disagree	8	5.8	5.8	33.8
	Agree	28	20.1	20.1	54.0
	Strongly agree	64	46.0	46.0	100.0
	Total	139	100.0	100.0	

Access blocking (cnab2)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	2	1.4	1.4	1.4
	Disagree	13	9.4	9.4	10.8
	Neither agree nor disagree	11	7.9	7.9	18.7
	Agree	32	23.0	23.0	41.7
	Strongly agree	81	58.3	58.3	100.0
	Total	139	100.0	100.0	

Struggle for resource control (cnab3)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	6	4.3	4.3	4.3
	Disagree	9	6.5	6.5	10.8
	Neither agree nor disagree	9	6.5	6.5	17.3
	Agree	34	24.5	24.5	41.7
	Strongly agree	81	58.3	58.3	100.0
	Total	139	100.0	100.0	

Demonstration of grievances (cnab4)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	5	3.6	3.6	3.6
	Disgree	8	5.8	5.8	9.4
	Neither agree nor disagree	7	5.0	5.0	14.4
	Agree	28	20.1	20.1	34.5
	Strongly disagree	91	65.5	65.5	100.0
	Total	139	100.0	100.0	

Transparency

Statistics

		Importance of environmental impacts transparency (teii1)	EIA as basis for informed consent (teii2)	Regards to informed consent expected (teii3)	Stakeholder pressure for transparency (teii4)
N	Valid	139	139	139	139
	Missing	0	0	0	0
Mean		4.5036	4.3885	3.9568	4.3525
Std. Error of Mean		.08381	.07877	.10605	.08535
Median		5.0000	5.0000	4.0000	5.0000
Mode		5.00	5.00	5.00	5.00
Std. Deviation		.98815	.92870	1.25034	1.00624
Skewness		-2.250	-1.789	-1.136	-1.666
Std. Error of Skewness		.206	.206	.206	.206
Kurtosis		4.355	3.118	.183	2.103
Std. Error of Kurtosis		.408	.408	.408	.408
Percentiles	25	4.0000	4.0000	4.0000	4.0000
	50	5.0000	5.0000	4.0000	5.0000
	75	5.0000	5.0000	5.0000	5.0000

Importance of environmental impacts transparency (teii1)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	4	2.9	2.9	2.9
	Disagree	8	5.8	5.8	8.6
	Neither agree nor disagree	2	1.4	1.4	10.1
	Agree	25	18.0	18.0	28.1
	Strongly agree	100	71.9	71.9	100.0
	Total	139	100.0	100.0	

EIA as basis for informed consent (teii2)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	3	2.2	2.2	2.2
	Disagree	5	3.6	3.6	5.8
	Neither agree nor disagree	10	7.2	7.2	12.9
	Agree	38	27.3	27.3	40.3
	Strongly disagree	83	59.7	59.7	100.0
	Total	139	100.0	100.0	

Regards to informed consent expected (teii3)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	10	7.2	7.2	7.2
	Disagree	14	10.1	10.1	17.3
	Neither agree nor disagree	9	6.5	6.5	23.7
	Agree	45	32.4	32.4	56.1
	Strongly agree	61	43.9	43.9	100.0
	Total	139	100.0	100.0	

Stakeholder pressure for transparency (teii4)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	3	2.2	2.2	2.2
	Disagree	9	6.5	6.5	8.6
	Neither agree nor disagree	9	6.5	6.5	15.1
	Agree	33	23.7	23.7	38.8
	Strongly agree	85	61.2	61.2	100.0
	Total	139	100.0	100.0	

Non-Compliance

Statistics

		Visibility of non-compliance (npnid1)	Grievances for negligence (npnid2)	Lack of accountability (npnid3)
N	Valid	139	139	139
	Missing	0	0	0
Mean		4.2590	4.2734	4.3453
Std. Error of Mean		.09095	.08592	.08586
Median		5.0000	5.0000	5.0000
Mode		5.00	5.00	5.00
Std. Deviation		1.07230	1.01300	1.01233
Skewness		-1.572	-1.676	-1.717
Std. Error of Skewness		.206	.206	.206
Kurtosis		1.769	2.532	2.421
Std. Error of Kurtosis		.408	.408	.408
Percentiles	25	4.0000	4.0000	4.0000
	50	5.0000	5.0000	5.0000
	75	5.0000	5.0000	5.0000

Visibility of non-compliance (npnid1)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	5	3.6	3.6	3.6
	Disagree	9	6.5	6.5	10.1
	Neither agree nor disagree	9	6.5	6.5	16.5
	Agree	38	27.3	27.3	43.9
	Strongly agree	78	56.1	56.1	100.0
	Total	139	100.0	100.0	

Grievances for negligence (npnid2)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	5	3.6	3.6	3.6
	Disagree	6	4.3	4.3	7.9

		Frequency	Percent	Valid Percent	Cumulative Percent
	Neither agree nor disagree	9	6.5	6.5	14.4
	Agree	45	32.4	32.4	46.8
	Strongly agree	74	53.2	53.2	100.0
	Total	139	100.0	100.0	

Lack of accountability (npnid3)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	4	2.9	2.9	2.9
	Disagree	7	5.0	5.0	7.9
	Neither agree bor disagree	10	7.2	7.2	15.1
	Agree	34	24.5	24.5	39.6
	Strongly agree	84	60.4	60.4	100.0
	Total	139	100.0	100.0	

Accountability

Statistics

		Stakeholder engagement in standards setting (eam1)	Environmental auditing (eam2)	Environmental monitoring (eam3)	Sanctions deter future pollution (eam4)
N	Valid	139	139	139	139
	Missing	0	0	0	0
Mean		4.4245	4.3669	4.3094	4.3957
Std. Error of Mean		.08542	.08851	.08030	.08520
Median		5.0000	5.0000	5.0000	5.0000
Mode		5.00	5.00	5.00	5.00
Std. Deviation		1.00707	1.04357	.94676	1.00447
Skewness		-1.928	-1.988	-1.333	-1.689
Std. Error of Skewness		.206	.206	.206	.206
Kurtosis		3.085	3.545	1.033	1.925
Std. Error of Kurtosis		.408	.408	.408	.408
Percentiles	25	4.0000	4.0000	4.0000	4.0000
	50	5.0000	5.0000	5.0000	5.0000
	75	5.0000	5.0000	5.0000	5.0000

Stakeholder engagement in standards setting (eam1)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	4	2.9	2.9	2.9
	Disagree	7	5.0	5.0	7.9
	Neither agree nor disagree	8	5.8	5.8	13.7
	Agree	27	19.4	19.4	33.1
	Strongly agree	93	66.9	66.9	100.0
	Total	139	100.0	100.0	

Environmental auditing (eam2)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	7	5.0	5.0	5.0
	Disagree	3	2.2	2.2	7.2
	Neither agree nor disagree	8	5.8	5.8	12.9
	Agree	35	25.2	25.2	38.1
	Strongly agree	86	61.9	61.9	100.0
	Total	139	100.0	100.0	

Environmental monitoring (eam3)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	1	.7	.7	.7
	Disagree	9	6.5	6.5	7.2

		Frequency	Percent	Valid Percent	Cumulative Percent
	Neither agree nor disagree	14	10.1	10.1	17.3
	Agree	37	26.6	26.6	43.9
	Strongly agree	78	56.1	56.1	100.0
	Total	139	100.0	100.0	

Sanctions deter future pollution (eam4)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	2	1.4	1.4	1.4
	Disagree	11	7.9	7.9	9.4
	Neither agree nor disagree	8	5.8	5.8	15.1
	Agree	27	19.4	19.4	34.5
	Strongly agree	91	65.5	65.5	100.0
	Total	139	100.0	100.0	

CSR Alignment

Statistics

		CSR alignment with impacts preferred (csria1)	Alignment addresses pollution impacts directly (csria2)	Alignment deters future pollution (csria3)	Alignment guides impacts mitigation evaluation (csria4)
N	Valid	139	139	139	139
	Missing	0	0	0	0
Mean		4.4748	4.4820	3.2014	4.4460
Std. Error of Mean		.07595	.07100	.13782	.07653
Median		5.0000	5.0000	4.0000	5.0000
Mode		5.00	5.00	5.00	5.00
Std. Deviation		.89549	.83711	1.62490	.90227
Skewness		-1.705	-1.935	-.136	-2.029
Std. Error of Skewness		.206	.206	.206	.206
Kurtosis		1.895	4.091	-1.663	4.219
Std. Error of Kurtosis		.408	.408	.408	.408
Percentiles	25	4.0000	4.0000	2.0000	4.0000
	50	5.0000	5.0000	4.0000	5.0000
	75	5.0000	5.0000	5.0000	5.0000

CSR alignment with impacts preferred (csria1)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	10	7.2	7.2	7.2
	Neither agree nor disagree	8	5.8	5.8	12.9
	Agree	27	19.4	19.4	32.4
	Strongly agree	94	67.6	67.6	100.0
	Total	139	100.0	100.0	

Alignment addresses pollution impacts directly (csria2)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	2	1.4	1.4	1.4
	Disagree	3	2.2	2.2	3.6
	Neither agree nor disagree	10	7.2	7.2	10.8
	Agree	35	25.2	25.2	36.0
	Strongly agree	89	64.0	64.0	100.0
	Total	139	100.0	100.0	

Alignment deters future pollution (csria3)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	30	21.6	21.6	21.6
	disagree	32	23.0	23.0	44.6
	Neither agree nor disagree	6	4.3	4.3	48.9
	Agree	22	15.8	15.8	64.7

		Frequency	Percent	Valid Percent	Cumulative Percent
	Strongly agree	49	35.3	35.3	100.0
	Total	139	100.0	100.0	

Alignment guides impacts mitigation evaluation (csria4)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	3	2.2	2.2	2.2
	Disagree	5	3.6	3.6	5.8
	Neither agree nor disagree	6	4.3	4.3	10.1
	Agree	38	27.3	27.3	37.4
	Strongly agree	87	62.6	62.6	100.0
	Total	139	100.0	100.0	

Intention

Statistics

		Beliefs about consequences of poor performance (cbi1)	Effectiveness of external pressure (cbi2)	Corporate perception of world-view (cbi3)
N	Valid	139	139	139
	Missing	0	0	0
Mean		4.2662	4.2158	4.1439
Std. Error of Mean		.08759	.08650	.09278
Median		5.0000	5.0000	4.0000
Mode		5.00	5.00	5.00
Std. Deviation		1.03262	1.01982	1.09386
Skewness		-1.517	-1.402	-1.335
Std. Error of Skewness		.206	.206	.206
Kurtosis		1.564	1.525	1.037
Std. Error of Kurtosis		.408	.408	.408
Percentiles	25	4.0000	4.0000	4.0000
	50	5.0000	5.0000	4.0000
	75	5.0000	5.0000	5.0000

Beliefs about consequences of poor performance (cbi1)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	3	2.2	2.2	2.2
	Disagree	12	8.6	8.6	10.8
	Neither agree nor disagree	6	4.3	4.3	15.1
	Agree	42	30.2	30.2	45.3
	Strongly agree	76	54.7	54.7	100.0
	Total	139	100.0	100.0	

Effectiveness of external pressure (cbi2)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	4	2.9	2.9	2.9
	Disagree	7	5.0	5.0	7.9
	Neither agree nor disagree	15	10.8	10.8	18.7
	Agree	42	30.2	30.2	48.9
	Strongly agree	71	51.1	51.1	100.0
	Total	139	100.0	100.0	

Corporate perception of world-view (cbi3)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	5	3.6	3.6	3.6
	Disagree	11	7.9	7.9	11.5
	Neither agree nor disagree	11	7.9	7.9	19.4
	Agree	44	31.7	31.7	51.1
	Strongly agree	68	48.9	48.9	100.0
	Total	139	100.0	100.0	

Commitment

Statistics

		Environmental proactivity (cces1)	Beyond requirements performance (cces2)	Compensating for undue pollution (cces3)	Timely response to pollution incidence (cces4)
N	Valid	139	139	139	139
	Missing	0	0	0	0
Mean		4.4388	4.3309	3.9137	4.3309
Std. Error of Mean		.08791	.08807	.11115	.08688
Median		5.0000	5.0000	4.0000	5.0000
Mode		5.00	5.00	5.00	5.00
Std. Deviation		1.03640	1.03831	1.31039	1.02426
Skewness		-1.875	-1.726	-1.073	-1.524
Std. Error of Skewness		.206	.206	.206	.206
Kurtosis		2.476	2.432	-.032	1.376
Std. Error of Kurtosis		.408	.408	.408	.408
Percentiles	25	4.0000	4.0000	3.0000	4.0000
	50	5.0000	5.0000	4.0000	5.0000
	75	5.0000	5.0000	5.0000	5.0000

Environmental proactivity (cces1)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	3	2.2	2.2	2.2
	Disagree	11	7.9	7.9	10.1
	Neither agree nor disagree	6	4.3	4.3	14.4
	Agree	21	15.1	15.1	29.5
	Strongly agree	98	70.5	70.5	100.0
	Total	139	100.0	100.0	

Beyond requirements performance (cces2)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	5	3.6	3.6	3.6
	Disagree	6	4.3	4.3	7.9
	Neither agree nor disagree	11	7.9	7.9	15.8
	Agree	33	23.7	23.7	39.6
	Strongly agree	84	60.4	60.4	100.0
	Total	139	100.0	100.0	

Compensating for undue pollution (cces3)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	13	9.4	9.4	9.4
	Disagree	11	7.9	7.9	17.3
	Neither agree nor disagree	14	10.1	10.1	27.3
	Agree	38	27.3	27.3	54.7
	Strongly agree	63	45.3	45.3	100.0
	Total	139	100.0	100.0	

Timely response to pollution incidence (cces4)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	2	1.4	1.4	1.4
	Disagree	12	8.6	8.6	10.1
	Neither agree nor diasagree	9	6.5	6.5	16.5
	Agree	31	22.3	22.3	38.8
	Strongly agree	85	61.2	61.2	100.0
	Total	139	100.0	100.0	

Appendix 4: Exploratory Factor Analysis before Exclusion of 6 Items

4A: Case Processing Summary

		N	%
Cases	Valid	302	100.0
	Excluded[a]	0	.0
	Total	302	100.0

a. Listwise deletion based on all variables in the procedure.

4B: Reliability Test (31 Items)

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.860	.871	31

4C: KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.802
Bartlett's Test of Sphericity	Approx. Chi-Square	4693.308
	df	465
	Sig.	.000

4D: Communalities

	Initial	Extraction
apepr1	.341	.307
apepr2	.692	.736
apepr3	.594	.644
apepr4	.689	.702
apepr5	.364	.264
cnab1	.303	.281
cnab2	.643	.703
cnab3	.635	.700
cnab4	.647	.722
teii1	.682	.776
teii2	.644	.663
teii3	.280	.284
teii4	.646	.712
npnid1	.618	.729
npnid2	.524	.587
npnid3	.628	.732
eam1	.717	.850
eam2	.562	.554
eam3	.547	.527
eam4	.603	.628
csria1	.585	.710
csria2	.559	.621
csria3	.211	.196
csria4	.515	.561
cbi1	.629	.712
cbi2	.591	.642
cbi3	.588	.687
cces1	.684	.794
cces2	.571	.610
cces3	.193	.170
cces4	.674	.648

Extraction Method: Principal Axis Factoring.

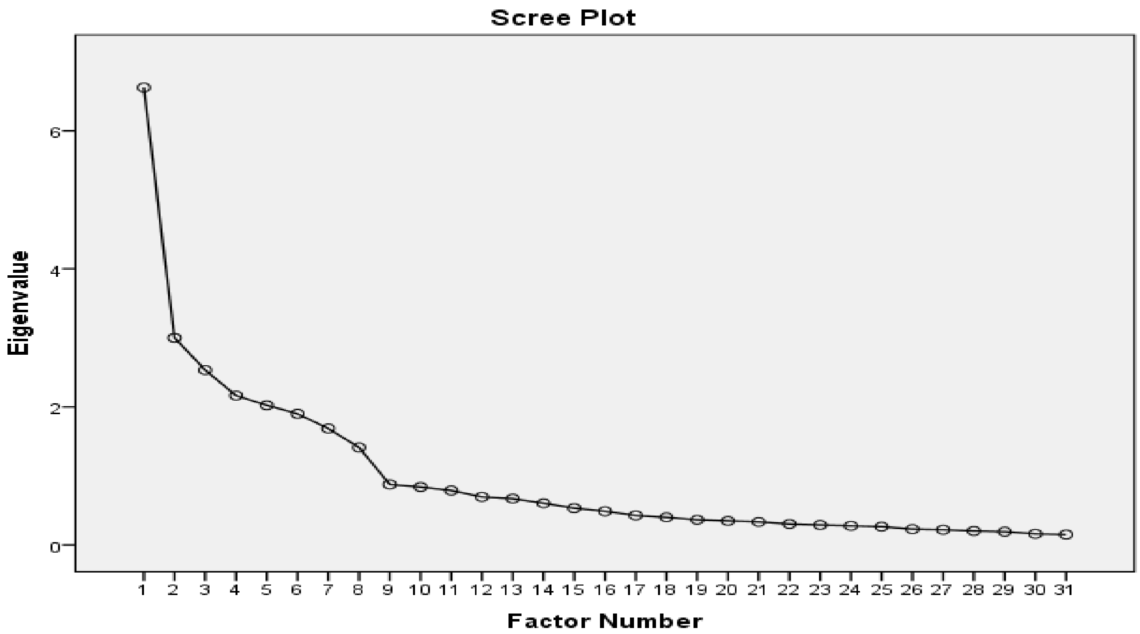
4E: Total Variance Explained

Factor	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %

1	6.626	21.376	21.376	6.277	20.249	20.249	2.624	8.466	8.466
2	3.000	9.677	31.052	2.638	8.511	28.759	2.582	8.329	16.795
3	2.532	8.168	39.221	2.196	7.082	35.842	2.457	7.926	24.721
4	2.164	6.981	46.202	1.788	5.768	41.610	2.428	7.833	32.554
5	2.023	6.527	52.729	1.643	5.301	46.910	2.236	7.214	39.768
6	1.900	6.129	58.857	1.526	4.921	51.832	2.072	6.683	46.451
7	1.687	5.443	64.300	1.351	4.357	56.189	2.034	6.561	53.012
8	1.412	4.553	68.854	1.032	3.329	59.518	2.017	6.506	59.518
9	.876	2.825	71.679						
10	.839	2.707	74.386						
11	.788	2.543	76.929						
12	.696	2.245	79.174						
13	.671	2.164	81.338						
14	.604	1.947	83.286						
15	.533	1.719	85.005						
16	.488	1.576	86.581						
17	.428	1.380	87.961						
18	.400	1.291	89.253						
19	.365	1.176	90.429						
20	.348	1.123	91.551						
21	.333	1.075	92.626						
22	.303	.978	93.604						
23	.288	.928	94.532						
24	.276	.890	95.422						
25	.264	.852	96.274						
26	.228	.737	97.011						
27	.220	.710	97.721						
28	.203	.654	98.374						
29	.192	.619	98.993						
30	.161	.520	99.514						
31	.151	.486	100.000						

Extraction Method: Principal Axis Factoring.

4F: Scree plot of 31 items



Appendix 5: Internal Reliability and Consistency Test of 8 Latent Constructs Included in Final Analysis

Environmental risks awareness before exclusion of 2 Items

Case Processing Summary

		N	%
Cases	Valid	302	100.0
	Excluded[a]	0	.0
	Total	302	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.801	.823	5

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
apepr1	17.3543	12.309	.498	.261	.796
apepr2	16.9669	12.823	.729	.630	.726
apepr3	17.0795	12.917	.667	.526	.741
apepr4	17.0066	13.063	.683	.605	.738
apepr5	17.4073	12.561	.454	.243	.814

Environmental risk awareness after exclusion of 2 items

Case Processing Summary

		N	%
Cases	Valid	302	100.0
	Excluded[a]	0	.0
	Total	302	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.868	.869	3

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
apepr2	8.8212	3.416	.769	.597	.795
apepr3	8.9338	3.391	.717	.514	.844
apepr4	8.8609	3.422	.759	.585	.804

Community reaction before exclusion of 1 item

Case Processing Summary

		N	%
Cases	Valid	302	100.0
	Excluded[a]	0	.0
	Total	302	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.818	.838	4

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
cnab1	12.7715	7.625	.472	.225	.877
cnab2	12.1689	7.915	.718	.595	.738
cnab3	12.1589	8.088	.718	.584	.741
cnab4	12.0331	7.780	.730	.588	.732

Community reaction after exclusion of 1 item

Case Processing Summary

		N	%
Cases	Valid	302	100.0
	Excluded[a]	0	.0
	Total	302	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.877	.877	3

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
cnab2	8.5629	3.556	.769	.592	.819
cnab3	8.5530	3.710	.760	.578	.829
cnab4	8.4272	3.528	.759	.576	.830

Transparency before exclusion of 1 item

Case Processing Summary

		N	%
Cases	Valid	302	100.0
	Excluded[a]	0	.0
	Total	302	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.828	.841	4

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
teii1	12.5828	7.460	.752	.630	.740
teii2	12.6523	7.836	.720	.573	.758
teii3	13.0265	7.680	.480	.231	.879
teii4	12.6788	7.534	.723	.590	.752

Transparency after exclusion of 1 item

Case Processing Summary

		N	%
Cases	Valid	302	100.0
	Excluded[a]	0	.0
	Total	302	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.879	.880	3

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
teii1	8.6291	3.516	.789	.622	.809
teii2	8.6987	3.793	.751	.566	.844
teii4	8.7252	3.549	.762	.584	.834

Non-compliance (npnid)

Case Processing Summary

		N	%
Cases	Valid	302	100.0
	Excluded[a]	0	.0
	Total	302	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.860	.861	3

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
npnid1	8.6854	2.967	.754	.577	.787
npnid2	8.6026	3.403	.699	.489	.836
npnid3	8.5464	3.285	.757	.577	.785

Environmental accountability

Case Processing Summary

		N	%
Cases	Valid	302	100.0
	Excluded[a]	0	.0
	Total	302	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.869	.869	4

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
eam1	12.8742	5.466	.825	.681	.789
eam2	12.8411	6.001	.683	.502	.848
eam3	13.0364	6.367	.652	.459	.859
eam4	12.8543	5.886	.730	.548	.829

CSR initiatives alignment before exclusion of 1 item

Case Processing Summary

		N	%
Cases	Valid	302	100.0
	Excluded[a]	0	.0
	Total	302	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.727	.775	4

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
csria1	11.9404	6.601	.671	.513	.585
csria2	11.9503	7.237	.617	.488	.627
csria3	12.8179	6.116	.350	.142	.830
csria4	11.8477	7.106	.578	.464	.639

CSR initiative alignment after exclusion of 1 item

Case Processing Summary

		N	%
Cases	Valid	302	100.0
	Excluded[a]	0	.0
	Total	302	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.830	.832	3

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
csria1	8.5728	2.810	.694	.484	.761
csria2	8.5828	3.108	.697	.485	.761
csria4	8.4801	2.928	.681	.464	.774

Intention

Case Processing Summary

		N	%
Cases	Valid	302	100.0
	Excluded[a]	0	.0
	Total	302	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.852	.852	3

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
cbi1	8.2285	3.306	.732	.536	.784
cbi2	8.3642	3.402	.711	.506	.804
cbi3	8.3344	3.240	.725	.526	.791

Commitment before exclusion of 1 item

Case Processing Summary

		N	%
Cases	Valid	302	100.0
	Excluded[a]	0	.0
	Total	302	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.761	.797	4

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
cces1	12.3311	6.634	.705	.609	.636
cces2	12.5033	6.942	.652	.511	.665
cces3	13.1192	6.444	.369	.138	.857
cces4	12.5497	6.900	.639	.523	.669

Commitment after exclusion of 1 item

Case Processing Summary

		N	%
Cases	Valid	302	100.0
	Excluded[a]	0	.0
	Total	302	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.857	.857	3

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
cces1	8.6159	2.935	.777	.604	.754
cces2	8.7881	3.184	.702	.504	.825
cces4	8.8344	3.089	.712	.521	.816

Appendix 6: Data Validation and Consistency of 25 Items in 8 Latent Constructs

6A: Testing for multi-collinearity among observed variables

The variance inflation factor (VIF) is one of the basic tools used in measuring the degree of collinearity present in each of the observed variable of the latent construct (Craney, & Surles, 2002). It is defined as:

$$VIF = 1/TOL_i$$

Where: VIF = variance inflation factor; and TOL_i = tolerance of variable *i* (i.e. 1 – the coefficient of determination (R^2) of the variable). The tolerance value is the amount of a variable unexplained by the other independent variables in the same model, therefore large VIF denotes high collinearity (Hair *et al*, 2006).

Table 7. Collinearity Test of RiskAw exogenous variables

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	.838	.177		4.725	.000		
	apepr3	.322	.047	.338	6.909	.000	.563	1.775
	apepr4	.504	.049	.506	10.346	.000	.563	1.775

a. Dependent Variable: apepr2

Table 7. Collinearity Test of ComReact exogenous variables

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	.594	.178		3.344	.001		
	cnab3	.436	.053	.421	8.191	.000	.517	1.935
	cnab4	.408	.051	.415	8.073	.000	.517	1.935

a. Dependent Variable: cnab2

Table 7. Collinearity Test of EnvTransp exogenous variables

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	.939	.191		4.913	.000		
	teii2	.675	.046	.644	14.770	.000	.818	1.223
	teii3	.136	.035	.169	3.878	.000	.818	1.223

a. Dependent Variable: teii1

Table 7. Collinearity Test of NonCompli exogenous variables

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	.252	.202		1.248	.213		
	npnid2	.341	.054	.311	6.287	.000	.579	1.728
	npnid3	.574	.055	.520	10.505	.000	.579	1.728

a. Dependent Variable: npnid1

Table 7. Collinearity Test of AcctProc exogenous variables

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	-.038	.177		-.216	.829		
	eam2	.339	.042	.337	7.992	.000	.604	1.655
	eam3	.325	.044	.302	7.369	.000	.640	1.563
	eam4	.352	.045	.345	7.752	.000	.543	1.843

a. Dependent Variable: eam1

Table 7. Collinearity Test of CSRAlign exogenous variables

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	.699	.216		3.238	.001		
	csria2	.458	.059	.413	7.826	.000	.620	1.613
	csria4	.370	.054	.360	6.821	.000	.620	1.613

a. Dependent Variable: csria1

Table 7. Collinearity Test of CoIntent exogenous variables

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	.941	.182		5.172	.000		
	cbi2	.383	.052	.378	7.334	.000	.583	1.714
	cbi3	.418	.050	.428	8.303	.000	.583	1.714

a. Dependent Variable: cbi1

Table 7. Collinearity Test of CoComit exogenous variables

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	.727	.181		4.025	.000		
	cces2	.427	.047	.417	9.118	.000	.634	1.578
	cces4	.450	.046	.450	9.835	.000	.634	1.578

a. Dependent Variable: cces1

6B: Assessment of Normality Distribution and Bootstrapping

Variable	min	max	skew	c.r.	kurtosis	c.r.
cces2	1.000	5.000	-1.600	-11.355	2.260	8.018
cces4	1.000	5.000	-1.367	-9.696	1.124	3.987
cces1	1.000	5.000	-2.007	-14.241	3.087	10.950
cnab4	1.000	5.000	-1.686	-11.964	1.994	7.073
cnab3	1.000	5.000	-1.493	-10.594	1.903	6.750
cnab2	1.000	5.000	-1.292	-9.164	.873	3.097
eam2	1.000	5.000	-1.672	-11.861	2.479	8.795
cbi3	1.000	5.000	-1.272	-9.026	1.099	3.898
cbi2	1.000	5.000	-1.229	-8.717	1.266	4.489
cbi1	1.000	5.000	-1.414	-10.034	1.349	4.785
csria4	1.000	5.000	-1.688	-11.977	2.560	9.080
csria2	1.000	5.000	-1.114	-7.905	.874	3.100
csria1	1.000	5.000	-1.195	-8.476	.519	1.843
eam4	1.000	5.000	-1.580	-11.213	1.982	7.030
eam3	1.000	5.000	-1.004	-7.123	.607	2.153
eam1	1.000	5.000	-1.568	-11.127	2.021	7.171
npnid3	1.000	5.000	-1.604	-11.382	2.083	7.390
npnid2	1.000	5.000	-1.564	-11.094	2.105	7.467
npnid1	1.000	5.000	-1.457	-10.340	1.528	5.421
teii4	1.000	5.000	-1.600	-11.349	1.822	6.463
teii2	1.000	5.000	-1.631	-11.571	2.174	7.714
teii1	1.000	5.000	-1.839	-13.050	2.494	8.846
apepr4	1.000	5.000	-1.822	-12.929	2.269	8.048
apepr3	1.000	5.000	-1.838	-13.038	2.630	9.330
apepr2	1.000	5.000	-2.048	-14.528	3.412	12.102
Multivariate					148.177	35.042

6C: Correlation Matrix of 25 Variables

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1	apepr2	1.																
2	apepr3	.673	1.															
3	apepr4	.730	.661	1.														
4	cnab2	.239	.231	.239	1.													
5	cnab3	.226	.165	.257	.709	1.												
6	cnab4	.289	.180	.298	.707	.695	1.											
7	teii1	.202	.127	.278	.083	.089	.133	1.										
8	teii2	.210	.052	.168	.050	.005	.054	.716	1.									
9	teii4	.178	.116	.313	.034	.019	.122	.730	.681	1.								
10	npnid1	.171	.079	.230	.171	.133	.212	.239	.212	.166	1.							
11	npnid2	.200	.136	.216	.119	.102	.137	.239	.193	.170	.648	1.						
12	npnid3	.208	.126	.258	.193	.185	.216	.211	.231	.168	.722	.649	1.					
13	eam1	.209	.060	.103	.098	.060	.115	.155	.186	.168	.113	.105	.162	1.				
14	eam2	.197	.078	.131	.082	.084	.181	.193	.222	.206	.166	.142	.157	.693	1.			
15	eam3	.176	.116	.156	.114	.086	.141	.090	.141	.141	.126	.087	.128	.664	.496	1.		
16	eam4	.207	.040	.132	.028	.011	.114	.154	.191	.169	.090	.055	.112	.718	.600	.568	1.	
17	csria1	.247	.117	.218	.179	.173	.186	.210	.124	.097	.160	.104	.158	.173	.187	.096	.139	1.
18	csria2	.189	.159	.247	.173	.165	.203	.255	.186	.210	.211	.181	.214	.211	.176	.155	.092	.635
19	csria4	.220	.102	.219	.152	.171	.170	.157	.102	.099	.149	.072	.175	.141	.130	.047	.086	.615
20	cbi1	.187	.166	.179	.172	.172	.196	.150	.070	.097	.126	.128	.168	.235	.201	.218	.193	.160
21	cbi2	.179	.094	.142	.146	.106	.166	.257	.161	.176	.188	.172	.178	.257	.199	.189	.171	.165
22	cbi3	.165	.146	.166	.110	.109	.141	.120	.040	.035	.190	.122	.188	.119	.085	.079	.140	.227
23	cces1	.230	.146	.163	.131	.023	.162	.150	.104	.144	.108	.159	.239	.347	.310	.188	.304	.182
24	cces2	.179	.107	.196	.106	.110	.179	.163	.086	.133	.090	.139	.171	.352	.339	.270	.281	.182
25	cces4	.188	.179	.123	.146	.097	.139	.148	.103	.085	.171	.191	.270	.410	.277	.376	.391	.124

6D: Testing for Common-Method Bias in the Respective Group Responses

6D(i): ***Seven-factor solution for Oil Companies***

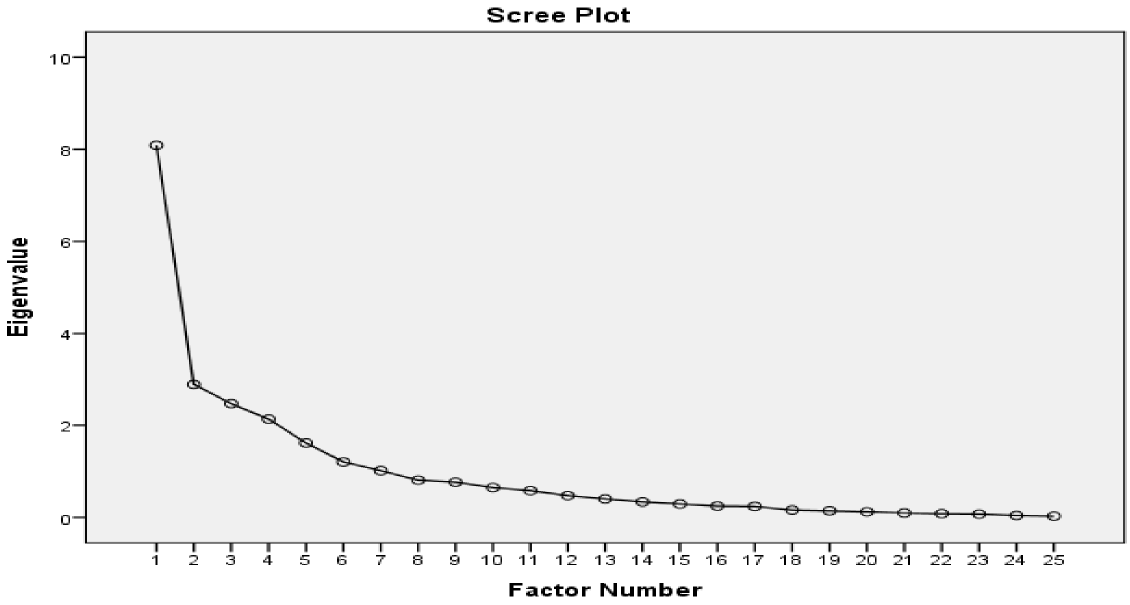
The Table and the Figure below present the OMNCs' latent factors extracted (using Principal Axis Factoring method of EFA) and Scree Plot, respectively. The results reveal 7-factor solution from the sample of OMNCs, thus common-method bias is not likely to be a problem. Besides, only one parameter "Polluted drinkable water" that does not fall into the same factor. This item cross-loaded with other "Environmental Risk Awareness" items, therefore theoretically, as suggested in (Ho 2006), it belongs to that group. The Scree Plot based on eigenvalues ≥ 1 also confirms 7-factor solution in this group.

Extracted factors, their communalities and loadings for Oil Companies group

Factors	Indicators	Communalities	Factor Loadings	Eigen value	% of variance explained
1. Environmental risk awareness and CSR alignment	Polluted atmospheric air (apepr2)	.637	.657	8.09	32.35
	Degraded ecosystem (apepr4)	.691	.636		
	CSR alignment with impacts preferred (csria1)	.670	.738		
	Alignment addresses pollution impacts directly (csria2)	.747	.796		
	Alignment guides impacts mitigation evaluation (csria4)	.587	.728		
2. Accountability approach to environmental management process	Stakeholder engagement in standards setting (eam1)	.821	.807	2.89	11.56
	Environmental auditing (eam2)	.571	.683		
	Environmental monitoring (eam3)	.657	.721		
	Sanctions deter future pollution (eam4)	.861	.859		
3. Non-compliance and intentional response to perceived external threats	Visibility of non-compliance (npnid1)	.677	.606	2.48	9.90
	Grievances for negligence (npnid2)	.561	.505		
	Lack of accountability (npnid3)	.808	.554		
	Beliefs about consequences of unacceptable performance (cbi1)	.714	.651		
	Effectiveness of external pressure (cbi2)	.598	.678		
	Corporate perception of world-view (cbi3)	.592	.619		
4. Community reaction to environmental condition	Access blocking (cnab2)	.682	.812	2.14	8.55
	Struggle for resource control (cnab3)	.816	.877		
	Demonstration of grievances (cnab4)	.530	.602		
5. Corporate commitment to environmental issues	Environmental proactivity (cces1)	.729	.781	1.62	6.48
	Compensating for undue pollution (cces2)	.962	.857		
	Timely response to pollution incidence (cces4)	.804	.756		
6. Transparency on business environmental impacts	Importance of environmental impacts transparency (teii1)	.775	.742	1.21	4.82
	EIA as basis for informed consent (teii2)	.526	.570		
	Stakeholder pressure for transparency (teii4)	.654	.748		
7. Water contamination awareness	Polluted drinkable water (apepr3)	.720	.539	1.018	4.07

Sample size: N = 41, Factors extracted = 7, and items included = 25.

Scree plot of 7-Factor solution in OMNCs group (*N* = 41)



6D(ii): ***Seven-factor Solution for the Communities/NGOs***

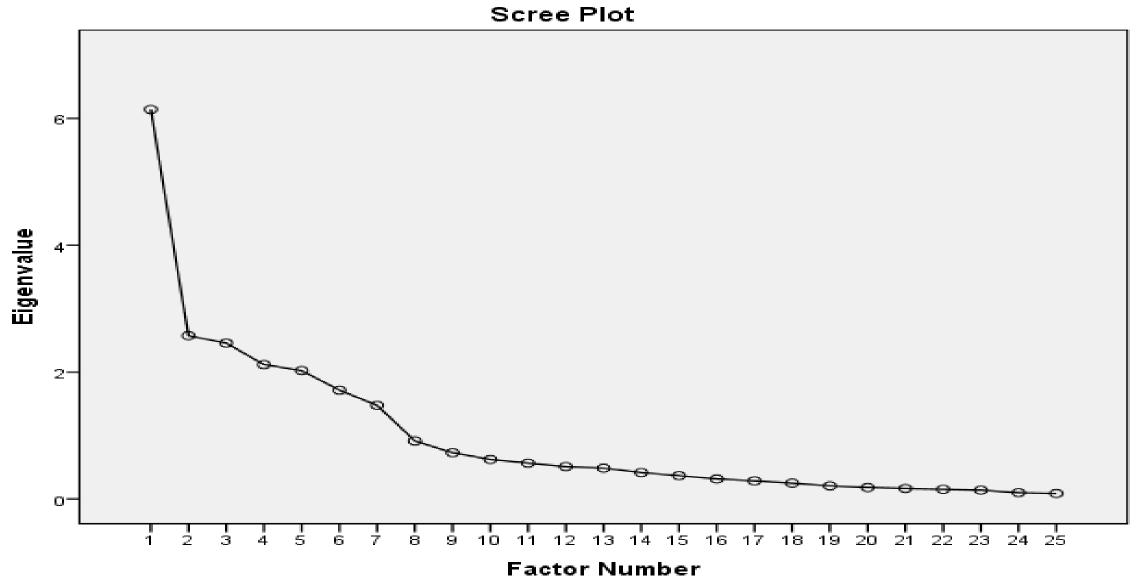
The analysis of Communities/NGOs data yielded a seven-factor solution. All the indicators of Environmental Risk Awareness and Commitment pooled together as a single factor. All other items loaded into respective factors the Table and Figure below.

Extracted factors, their communalities and loadings for Communities/NGOs group

Factors	**Indicators**	**Communalities**	**Factor Loadings**	**Eigen value**	**% of variance explained**
1. Intentional response to perceived threat and commitment to sustainability	Beliefs about consequences of unacceptable performance (cbi1)	.716	.832	6.14	24.56
	Effectiveness of external pressure (cbi2)	.521	.685		
	Corporate perception of world-view (cbi3)	.650	.792		
	Environmental proactivity (cces1)	.625	.669		
	Compensating for undue pollution (cces2)	.323	.388		
	Timely response to pollution incidence (cces4)	.554	.550		
2. Transparency on business environmental impacts	Importance of environmental impacts transparency (teii1)	.777	.853	2.57	10.29
	EIA as basis for informed consent (teii2)	.850	.900		
	Stakeholder pressure for transparency (teii4)	.823	.890		
3. Environmental risks awareness	Polluted atmospheric air (apepr2)	.834	.843	2.46	9.83
	Polluted drinkable water (apepr3)	.797	.869		
	Degraded ecosystem (apepr4)	.800	.836		
4. Accountability approach to environmental management process	Stakeholder engagement in standards setting (eam1)	.835	.863	2.13	8.47
	Environmental auditing (eam2)	.511	.685		
	Environmental monitoring (eam3)	.445	.633		
	Sanctions deter future pollution (eam4)	.562	.721		
5. Non-compliance with environmental requirements	Visibility of non-compliance (npnid1)	.767	.823	2.02	8.09
	Grievances for negligence (npnid2)	.564	.692		
	Lack of accountability (npnid3)	.678	.767		
6. Community reaction to environmental condition	Access blocking (cnab2)	.693	.822	1.72	6.86
	Struggle for resource control (cnab3)	.645	.797		
	Demonstration of grievances (cnab4)	.639	.766		
7. Alignment of CSR initiatives with business impacts	CSR alignment with impacts preferred (csria1)	.520	.685	1.48	5.90
	Alignment addresses pollution impacts directly (csria2)	.478	.655		
	Alignment guides impacts mitigation evaluation (csria4)	591	.753		

Sample size: N = 122, Factors extracted = 7, and items included = 25.

Scree plot of 7-Factor solution in CNGOs group (*N* = 122)



6D(iii): ***Eight-Factor Solution for the Government Institutions (Experts)***

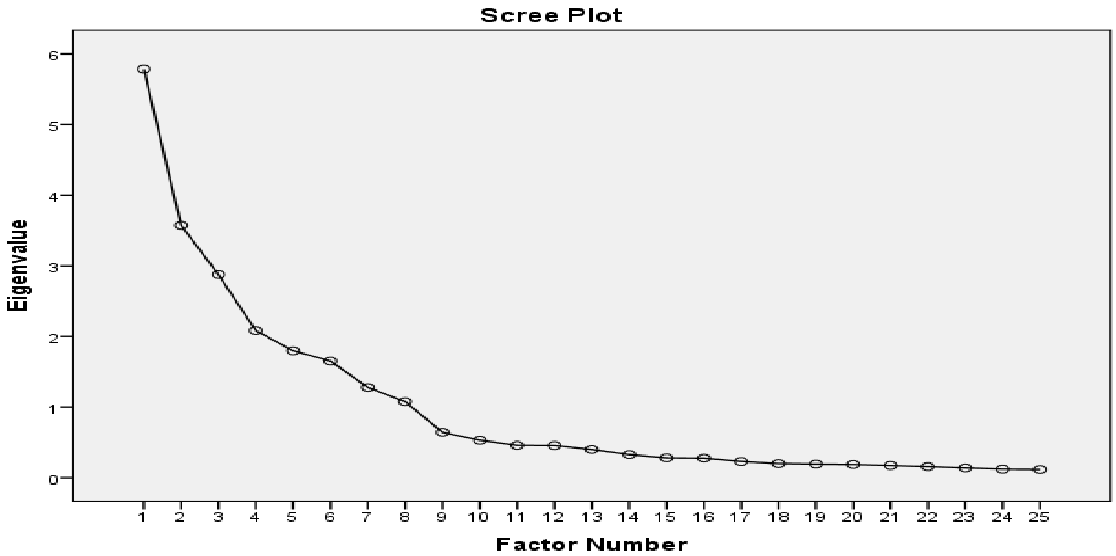
In Expert group, eight factors were extracted. The number of factor is similar to that of earlier exploratory analysis of subsample data (116) from UNIBEN and UNICAL in section 7.3.2 (see Table 7 and Figure below).

Extracted factors, their communalities and loadings for Experts group

Factors	Indicators	Communalities	Factor Loadings	Eigen value	% of variance explained
1. Accountability approach to environmental management process	Stakeholder engagement in standards setting (eam1)	.923	.895	5.79	23.14
	Environmental auditing (eam2)	.637	.722		
	Environmental monitoring (eam3)	.580	.734		
	Sanctions deter future pollution (eam4)	.619	.759		
2. Community reaction to environmental condition	Access blocking (cnab2)	.748	.814	3.57	14.29
	Struggle for resource control (cnab3)	.776	.827		
	Demonstration of grievances (cnab4)	.845	.868		
3. Corporate commitment to environmental issues	Environmental proactivity (cces1)	.799	.859	2.88	11.51
	Compensating for undue pollution (cces2)	.720	.766		
	Timely response to pollution incidence (cces4)	.707	.773		
4. Non-compliance with environmental requirements	Visibility of non-compliance (npnid1)	.783	.858	2.08	8.34
	Grievances for negligence (npnid2)	.710	.818		
	Lack of accountability (npnid3)	.720	.820		
5. Alignment of CSR initiatives with business impacts	CSR alignment with impacts preferred (csria1)	.799	.867	1.80	7.16
	Alignment addresses pollution impacts directly (csria2)	.713	.734		
	Alignment guides impacts mitigation evaluation (csria4)	.698	.800		
6. Intentional improvement as response to perceived external threats	Beliefs about consequences of unacceptable performance (cbi1)	.684	.746	1.65	6.61
	Effectiveness of external pressure (cbi2)	.706	.805		
	Corporate perception of world-view (cbi3)	.786	.853		
7. Environmental risks awareness	Polluted atmospheric air (apepr2)	.584	.691	1.28	5.11
	Polluted drinkable water (apepr3)	.625	.738		
	Degraded ecosystem (apepr4)	.771	.830		
8. Transparency on business environmental impacts	Importance of environmental impacts transparency (teii1)	.764	.829	1.08	4.31
	EIA as basis for informed consent (teii2)	.550	.709		
	Stakeholder pressure for transparency (teii4)	.645	.765		

Sample size: N = 139, Factors extracted = 8, and items included = 25.

Scree Plot of 8-Factor solution in Experts' group (*N* = 139)



Appendix 6D(iv) ***Eight-factor solution for the combined groups***

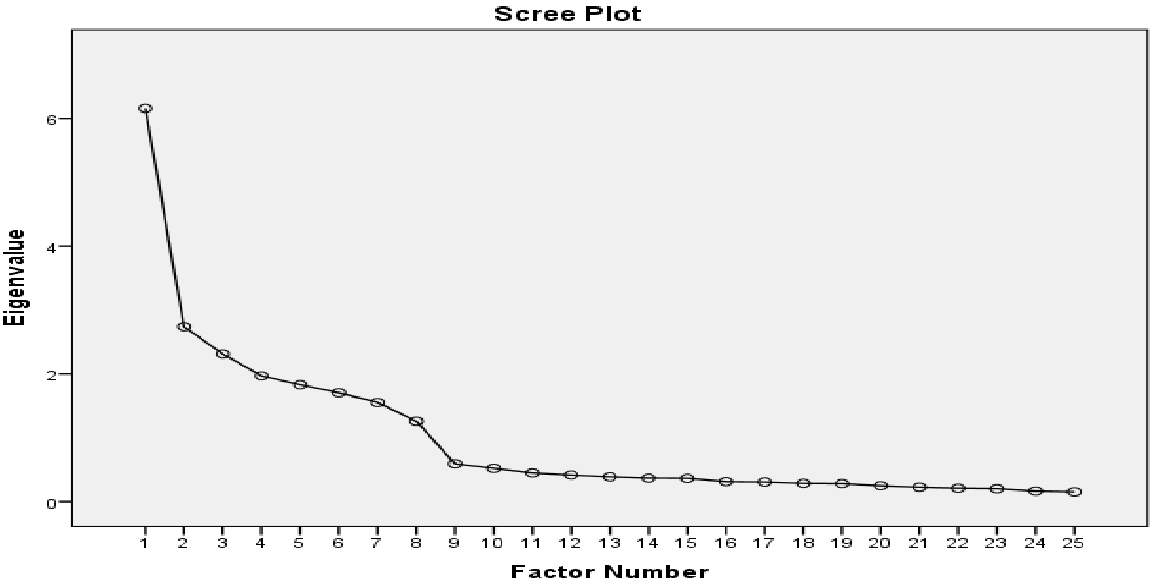
The combined sample also yielded eight-factor solution (see Table and Figure below). The indication is that the observed variables are consistent in all the groups.

Extracted factors, their communalities and loadings: Combined (Items included = 25)

Factors	Indicators	Communalities	Factor Loadings	Eigen value	% of variance explained
1. Accountability approach to environmental management process	Stakeholder engagement in standards setting (eam1)	.855	.894	6.16	24.63
	Environmental auditing (eam2)	.552	.697		
	Environmental monitoring (eam3)	.518	.696		
	Sanctions deter future pollution (eam4)	.635	.768		
2. Transparency on business environmental impacts	Importance of environmental impacts transparency (teii1)	.780	.847	2.74	10.96
	EIA as basis for informed consent (teii2)	.662	.786		
	Stakeholder pressure for transparency (teii4)	.716	.824		
3. Community reaction to environmental condition	Access blocking (cnab2)	.709	.820	2.31	9.25
	Struggle for resource control (cnab3)	.714	.827		
	Demonstration of grievances (cnab4)	.704	.802		
4. Non-compliance with environmental requirements	Visibility of non-compliance (npnid1)	.741	.833	1.97	7.87
	Grievances for negligence (npnid2)	.585	.738		
	Lack of accountability (npnid3)	.730	.813		
5. Environmental risks awareness	Polluted atmospheric air (apepr2)	.733	.802	1.83	7.32
	Polluted drinkable water (apepr3)	.643	.787		
	Degraded ecosystem (apepr4)	.744	.799		
6. Intentional improvement as response to perceived external threats	Beliefs about consequences of unacceptable performance (cbi1)	.714	.771	1.71	6.82
	Effectiveness of external pressure (cbi2)	.656	.761		
	Corporate perception of world-view (cbi3)	.679	.788		
7. Corporate commitment to environmental issues	Environmental proactivity (cces1)	.809	.846	1.55	6.21
	Compensating for undue pollution (cces2)	.586	.704		
	Timely response to pollution incidence (cces4)	.655	.709		
8. Alignment of CSR initiatives with business impacts	CSR alignment with impacts preferred (csria1)	.647	.776	1.26	5.03
	Alignment addresses pollution impacts directly (csria2)	.637	.746		
	Alignment guides impacts mitigation evaluation (csria4)	.604	.757		

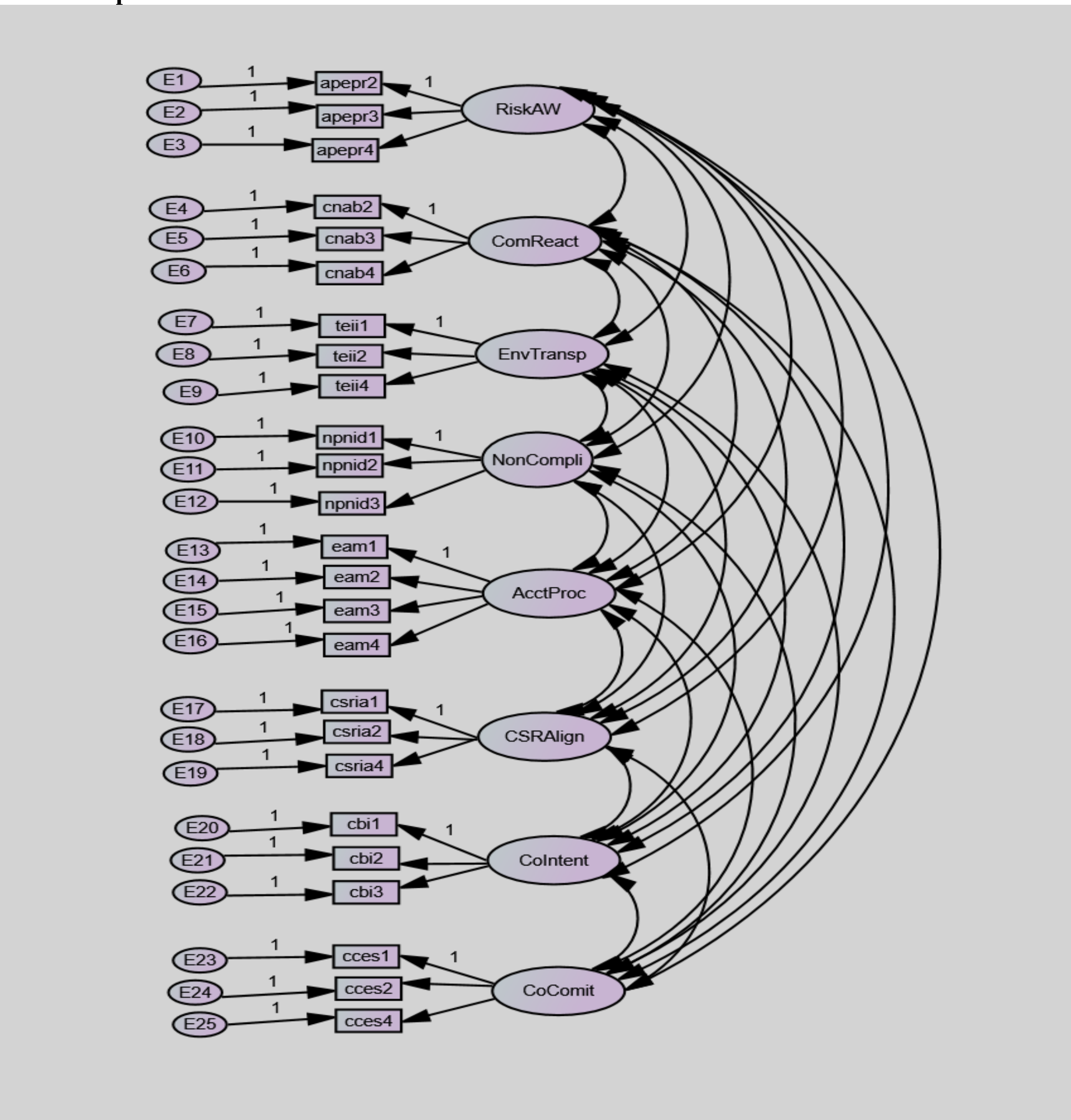
Sample size: N = 302 (Oil Companies' N = 41; Communities/NGOs' N = 122; and Experts' N = 139).

Scree plot of 8-Factor solution in combined groups (Items included = 25)



Appendix 7: Measurement Model before Modification

7A: Input measurement Model before modification



7B: Measurement Model Fit Summary of OMNCs before Modification

CMIN

Model	NPAR	CMIN	DF	P	CMIN/DF
Default model	78	370.654	247	.000	1.501
Saturated model	325	.000	0		
Independence model	25	903.373	300	.000	3.011

RMR, GFI

Model	RMR	GFI	AGFI	PGFI
Default model	.095	.629	.512	.478
Saturated model	.000	1.000		
Independence model	.311	.271	.210	.250

Baseline Comparisons

Model	NFI Delta1	RFI rho1	IFI Delta2	TLI rho2	CFI
Default model	.590	.502	.812	.751	.795
Saturated model	1.000		1.000		1.000
Independence model	.000	.000	.000	.000	.000

RMSEA

Model	RMSEA	LO 90	HI 90	PCLOSE
Default model	.112	.088	.135	.000
Independence model	.224	.208	.241	.000

7C: Measurement Model Fit Summary of CNGOs before Modification

CMIN

Model	NPAR	CMIN	DF	P	CMIN/DF
Default model	78	415.617	247	.000	1.683
Saturated model	325	.000	0		
Independence model	25	1951.736	300	.000	6.506

RMR, GFI

Model	RMR	GFI	AGFI	PGFI
Default model	.054	.809	.748	.615
Saturated model	.000	1.000		
Independence model	.228	.371	.319	.343

Baseline Comparisons

Model	NFI Delta1	RFI rho1	IFI Delta2	TLI rho2	CFI
Default model	.787	.741	.901	.876	.898
Saturated model	1.000		1.000		1.000
Independence model	.000	.000	.000	.000	.000

RMSEA

Model	RMSEA	LO 90	HI 90	PCLOSE
Default model	.075	.062	.088	.001
Independence model	.213	.204	.222	.000

7D: Measurement Model Fit Summary of EXPTts before Modification

CMIN

Model	NPAR	CMIN	DF	P	CMIN/DF
Default model	78	384.669	247	.000	1.557
Saturated model	325	.000	0		
Independence model	25	2387.090	300	.000	7.957

RMR, GFI

Model	RMR	GFI	AGFI	PGFI
Default model	.054	.825	.770	.627
Saturated model	.000	1.000		
Independence model	.265	.360	.307	.332

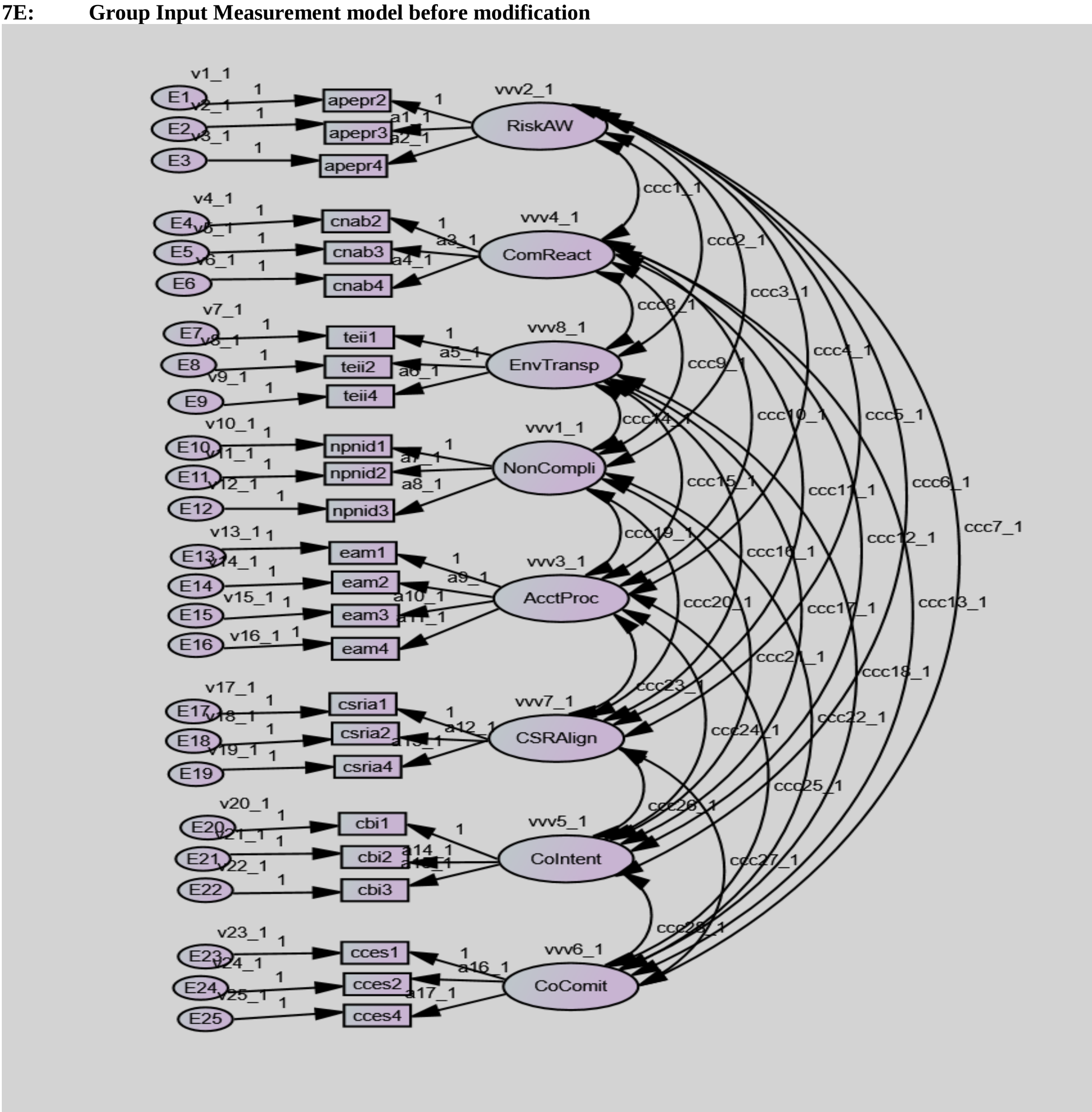
Baseline Comparisons

Model	NFI Delta1	RFI rho1	IFI Delta2	TLI rho2	CFI
Default model	.839	.804	.936	.920	.934
Saturated model	1.000		1.000		1.000
Independence model	.000	.000	.000	.000	.000

RMSEA

Model	RMSEA	LO 90	HI 90	PCLOSE
Default model	.064	.051	.076	.039
Independence model	.225	.216	.233	.000

7E: Group Input Measurement model before modification



Note: The model is similar in all groups; the different is in input number which is 1 for OMNCs, 2 for CNGOs and 3 for EXPTs

7F: Group Measurement Model Fit Summary BEFORE Modification

CMIN

Model	NPAR	CMIN	DF	P	CMIN/DF
Unconstrained	234	1174.643	741	.000	1.585
Measurement weights	200	1215.837	775	.000	1.569
Saturated model	975	.000	0		
Independence model	75	5245.580	900	.000	5.828

RMR, GFI

Model	RMR	GFI	AGFI	PGFI
Unconstrained	.070	.786	.718	.597
Measurement weights	.078	.779	.722	.619
Saturated model	.000	1.000		
Independence model	.270	.349	.294	.322

Baseline Comparisons

Model	NFI Delta1	RFI rho1	IFI Delta2	TLI rho2	CFI
Unconstrained	.776	.728	.904	.879	.900
Measurement weights	.768	.731	.901	.882	.899
Saturated model	1.000		1.000		1.000
Independence model	.000	.000	.000	.000	.000

RMSEA

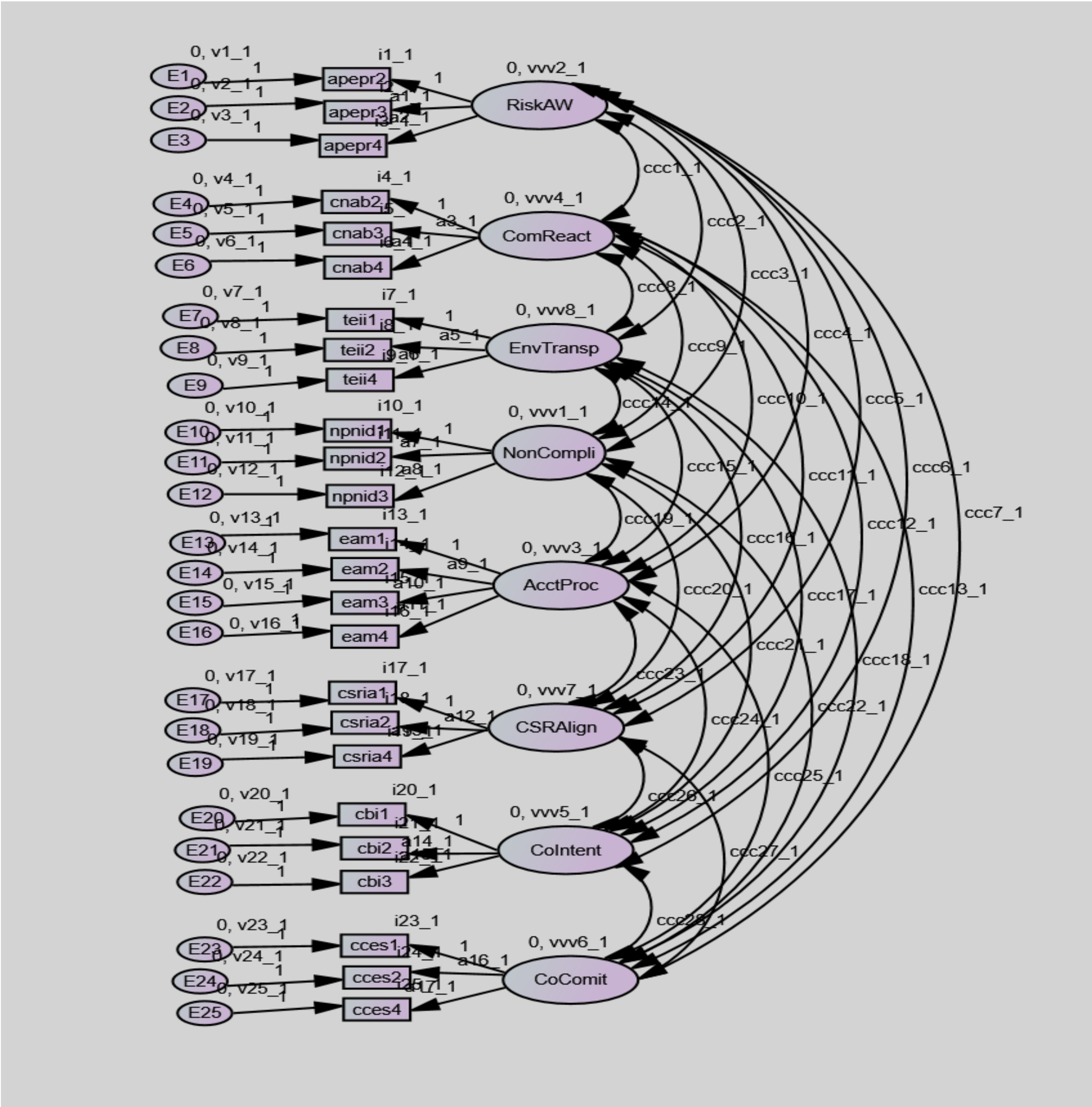
Model	RMSEA	LO 90	HI 90	PCLOSE
Unconstrained	.044	.039	.049	.978
Measurement weights	.044	.039	.048	.989
Independence model	.127	.124	.130	.000

7G: Measurement Model Modification Indices – Covariances: (OMNCs - Default model)

			M.I.	Par Change
E22	<-->	E24	5.918	.158
E20	<-->	E25	8.586	.176
E19	<-->	E25	5.931	.193
E17	<-->	E24	6.864	.214
E16	<-->	E24	4.178	.128
E15	<-->	E25	6.287	.159
E13	<-->	E22	4.208	-.149
E13	<-->	E17	5.516	-.214
E9	<-->	E13	4.435	.186
E8	<-->	NonCompli	6.031	.128
E8	<-->	E24	7.383	.182
E8	<-->	E12	9.503	.169
E7	<-->	ComReact	6.028	.140
E3	<-->	E11	5.735	.168
E2	<-->	E25	9.945	.214
E2	<-->	E24	7.761	-.187
E2	<-->	E20	5.312	.156
E2	<-->	E17	6.390	-.235
E2	<-->	E15	4.752	.156

Appendix 8: Group Latent Constructs Mean Variation

8A: Group mean structure model



Note: The model is similar in all groups; the different is in input number which is 1 for OMNCs, 2 for CNGOs and 3 for EXPTs

8B: Structural Mean Model Fit Summary

CMIN

Model	NPAR	CMIN	DF	P	CMIN/DF
Measurement intercepts	241	1261.991	809	.000	1.560
Structural means	225	1303.042	825	.000	1.579
Structural covariances	153	1483.454	897	.000	1.654
Measurement residuals	103	1609.059	947	.000	1.699
Saturated model	1050	.000	0		
Independence model	150	5245.580	900	.000	5.828

Baseline Comparisons

Model	NFI Delta1	RFI rho1	IFI Delta2	TLI rho2	CFI
Measurement intercepts	.759	.732	.898	.884	.896
Structural means	.752	.729	.892	.880	.890
Structural covariances	.717	.716	.865	.865	.865
Measurement residuals	.693	.708	.846	.855	.848
Saturated model	1.000		1.000		1.000
Independence model	.000	.000	.000	.000	.000

RMSEA

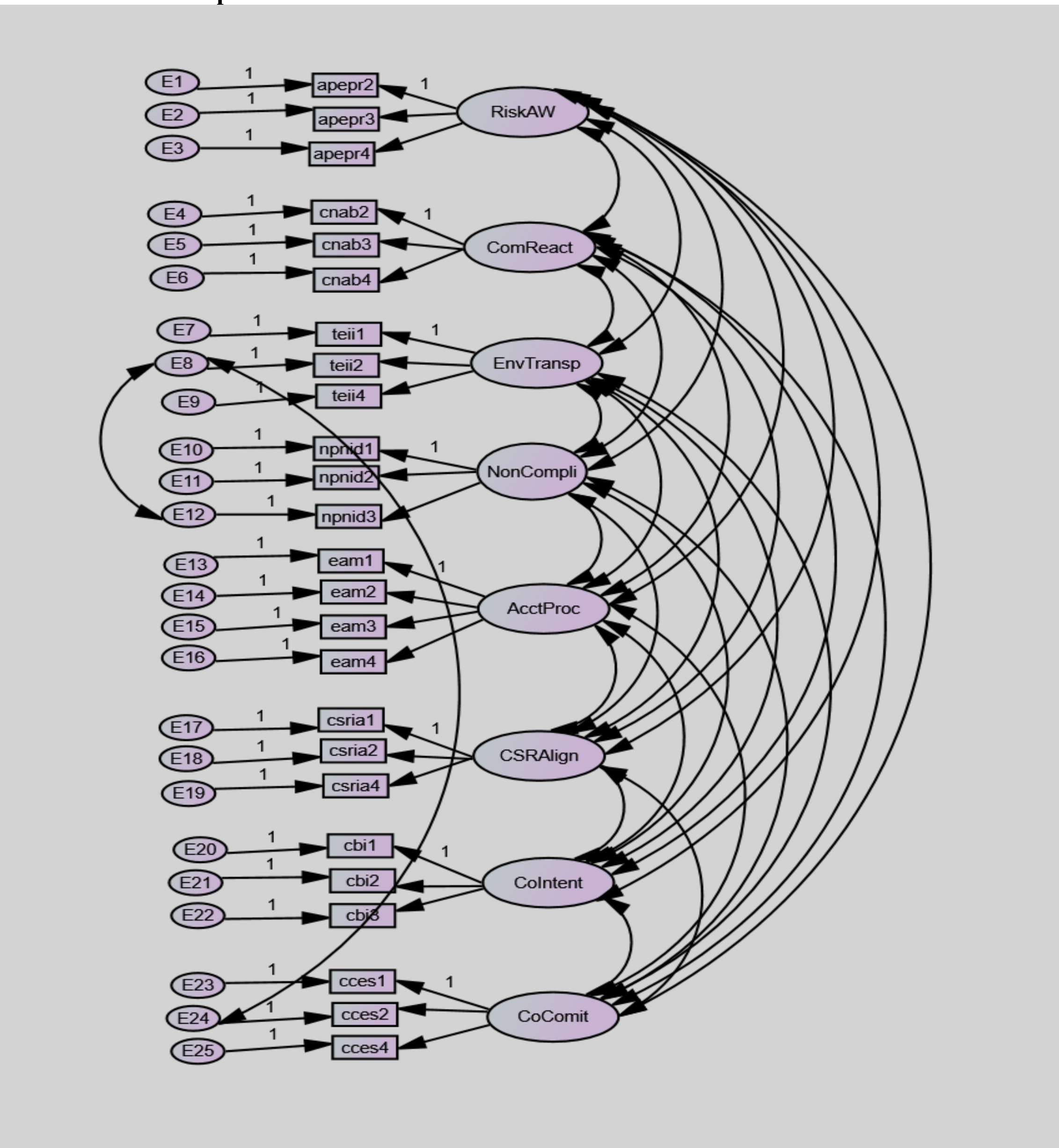
Model	RMSEA	LO 90	HI 90	PCLOSE
Measurement intercepts	.043	.039	.048	.993
Structural means	.044	.039	.048	.987
Structural covariances	.047	.043	.051	.897
Measurement residuals	.048	.044	.052	.745
Independence model	.127	.124	.130	.000

Nested Structural Mean Comparison: Assuming model Measurement intercepts to be correct:

Model	DF	CMIN	P	NFI Delta-1	IFI Delta-2	RFI rho-1	TLI rho2
Structural means	16	41.051	.001	.008	.009	.003	.004
Structural covariances	88	221.462	.000	.042	.050	.016	.019
Measurement residuals	138	347.068	.000	.066	.078	.024	.029

Appendix 9: Measurement Model After Modification

9A: Modified Input Measurement Model



9B: Measurement model fit summary of OMNCs after modification

CMIN

Model	NPAR	CMIN	DF	P	CMIN/DF
Default model	80	349.402	245	.000	1.426
Saturated model	325	.000	0		
Independence model	25	903.373	300	.000	3.011

RMR, GFI

Model	RMR	GFI	AGFI	PGFI
Default model	.095	.645	.529	.486
Saturated model	.000	1.000		
Independence model	.311	.271	.210	.250

Baseline Comparisons

Model	NFI Delta1	RFI rho1	IFI Delta2	TLI rho2	CFI
Default model	.613	.526	.841	.788	.827
Saturated model	1.000		1.000		1.000
Independence model	.000	.000	.000	.000	.000

RMSEA

Model	RMSEA	LO 90	HI 90	PCLOSE
Default model	.103	.077	.127	.001
Independence model	.224	.208	.241	.000

9C: Measurement model fit summary of CNGOs after modification

CMIN

Model	NPAR	CMIN	DF	P	CMIN/DF
Default model	80	410.746	245	.000	1.677
Saturated model	325	.000	0		
Independence model	25	1951.736	300	.000	6.506

RMR, GFI

Model	RMR	GFI	AGFI	PGFI
Default model	.054	.812	.750	.612
Saturated model	.000	1.000		
Independence model	.228	.371	.319	.343

Baseline Comparisons

Model	NFI Delta1	RFI rho1	IFI Delta2	TLI rho2	CFI
Default model	.790	.742	.903	.877	.900
Saturated model	1.000		1.000		1.000
Independence model	.000	.000	.000	.000	.000

RMSEA

Model	RMSEA	LO 90	HI 90	PCLOSE
Default model	.075	.062	.087	.001
Independence model	.213	.204	.222	.000

9D: Measurement Model Fit Summary of EXPTs after Modification

CMIN

Model	NPAR	CMIN	DF	P	CMIN/DF
Default model	80	381.267	245	.000	1.556
Saturated model	325	.000	0		
Independence model	25	2387.090	300	.000	7.957

RMR, GFI

Model	RMR	GFI	AGFI	PGFI
Default model	.054	.827	.770	.623
Saturated model	.000	1.000		
Independence model	.265	.360	.307	.332

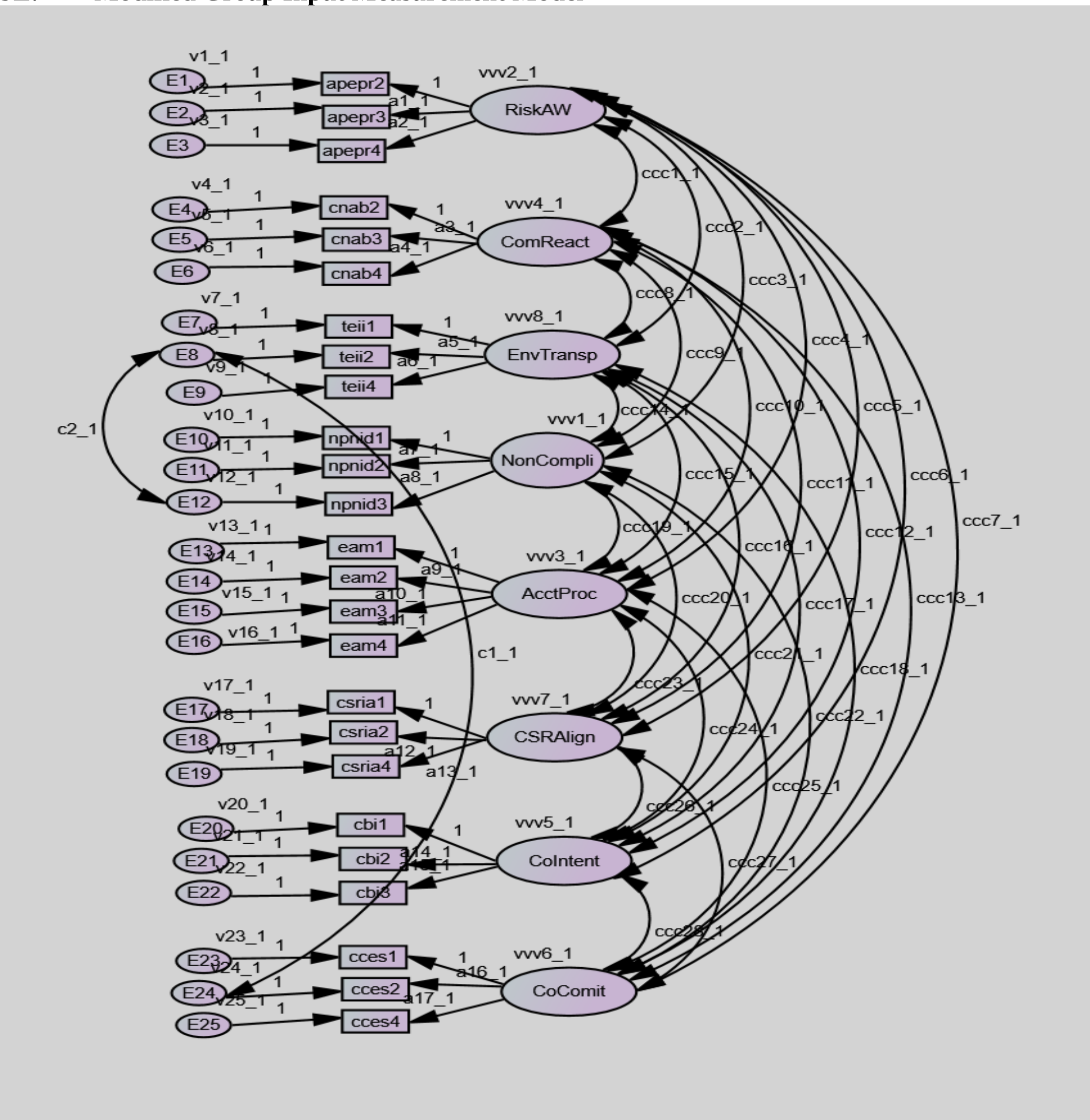
Baseline Comparisons

Model	NFI Delta1	RFI rho1	IFI Delta2	TLI rho2	CFI
Default model	.840	.804	.936	.920	.935
Saturated model	1.000		1.000		1.000
Independence model	.000	.000	.000	.000	.000

RMSEA

Model	RMSEA	LO 90	HI 90	PCLOSE
Default model	.063	.051	.076	.041
Independence model	.225	.216	.233	.000

9E: Modified Group Input Measurement Model



Note: The model is similar in all groups; the different is in input number which is 1 for OMNCs, 2 for CNGOs and 3 for EXPTs

9F: Group Measurement Model Fit Summary after modification

CMIN

Model	NPAR	CMIN	DF	P	CMIN/DF
Unconstrained	240	1144.821	735	.000	1.558
Measurement weights	206	1187.999	769	.000	1.545
Saturated model	975	.000	0		
Independence model	75	5245.580	900	.000	5.828

RMR, GFI

Model	RMR	GFI	AGFI	PGFI
Unconstrained	.071	.791	.722	.596
Measurement weights	.078	.784	.726	.618
Saturated model	.000	1.000		

Model	RMR	GFI	AGFI	PGFI
Independence model	.270	.349	.294	.322

Baseline Comparisons

Model	NFI Delta1	RFI rho1	IFI Delta2	TLI rho2	CFI
Unconstrained	.782	.733	.909	.885	.906
Measurement weights	.774	.735	.906	.887	.904
Saturated model	1.000		1.000		1.000
Independence model	.000	.000	.000	.000	.000

RMSEA

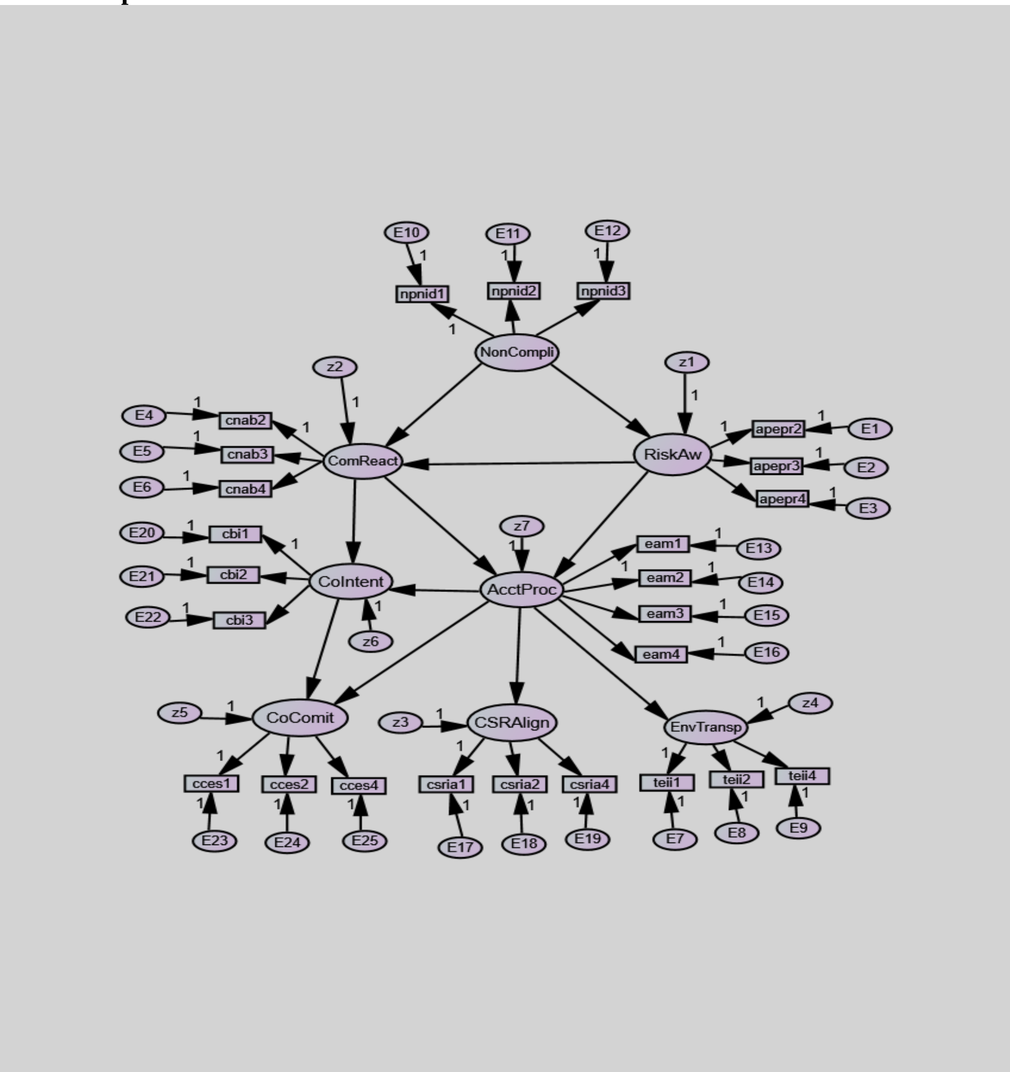
Model	RMSEA	LO 90	HI 90	PCLOSE
Unconstrained	.043	.038	.048	.991
Measurement weights	.043	.038	.047	.995
Independence model	.127	.124	.130	.000

Nested Measurement Model comparison (Assuming model Unconstrained to be correct)

Model	DF	CMIN	P	NFI Delta-1	IFI Delta-2	RFI rho-1	TLI rho2
Measurement weights	34	43.177	.135	.008	.010	-.002	-.003

Appendix 10: Structural Model before Modification

10A: Input Structural Model before Modification



10B: Structural Model Fit Summary of OMNCs Group BEFORE Modification

CMIN

Model	NPAR	CMIN	DF	P	CMIN/DF
Default model	61	416.446	264	.000	1.577
Saturated model	325	.000	0		
Independence model	25	903.373	300	.000	3.011

RMR, GFI

Model	RMR	GFI	AGFI	PGFI
Default model	.145	.597	.504	.485
Saturated model	.000	1.000		

Model	RMR	GFI	AGFI	PGFI
Independence model	.311	.271	.210	.250

Baseline Comparisons

Model	NFI Delta1	RFI rho1	IFI Delta2	TLI rho2	CFI
Default model	.539	.476	.762	.713	.747
Saturated model	1.000		1.000		1.000
Independence model	.000	.000	.000	.000	.000

RMSEA

Model	RMSEA	LO 90	HI 90	PCLOSE
Default model	.120	.098	.142	.000
Independence model	.224	.208	.241	.000

10C: Scalar Estimates before Modification (OMNCs - Unconstrained)

Maximum Likelihood Estimates

Regression Weights: (OMNCs - Unconstrained)

			Estimate	S.E.	C.R.	P	Label
RiskAw	<---	NonCompli	.647	.208	3.108	.002	b1_1
ComReact	<---	RiskAw	-.143	.171	-.832	.405	b2_1
ComReact	<---	NonCompli	.711	.232	3.070	.002	b3_1
AcctProc	<---	ComReact	.019	.194	.097	.923	b4_1
AcctProc	<---	RiskAw	.579	.183	3.168	.002	b6_1
CoIntent	<---	AcctProc	.312	.146	2.131	.033	b5_1
CoIntent	<---	ComReact	.428	.183	2.344	.019	b7_1
CoComit	<---	CoIntent	.484	.191	2.537	.011	b8_1
CoComit	<---	AcctProc	.228	.160	1.425	.154	b9_1
CSRAlign	<---	AcctProc	.136	.139	.973	.330	b10_1
EnvTransp	<---	AcctProc	.457	.141	3.249	.001	b11_1
eam1	<---	AcctProc	1.000				
eam2	<---	AcctProc	.729	.134	5.454	***	a1_1
eam3	<---	AcctProc	.708	.135	5.264	***	a2_1
cnab3	<---	ComReact	.849	.159	5.327	***	a3_1
cnab4	<---	ComReact	.978	.224	4.369	***	a4_1
npnid3	<---	NonCompli	1.132	.204	5.543	***	a5_1
npnid2	<---	NonCompli	.812	.184	4.418	***	a6_1
npnid1	<---	NonCompli	1.000				
apepr3	<---	RiskAw	.571	.139	4.099	***	a7_1
apepr4	<---	RiskAw	.985	.167	5.886	***	a8_1
cbi1	<---	CoIntent	1.000				
cbi2	<---	CoIntent	.605	.141	4.298	***	a9_1
cbi3	<---	CoIntent	.784	.166	4.722	***	a10_1
cces1	<---	CoComit	1.000				

			Estimate	S.E.	C.R.	P	Label
cces2	<---	CoComit	.794	.143	5.537	***	a11_1
cces4	<---	CoComit	.894	.147	6.085	***	a12_1
csria1	<---	CSRAlign	1.000				
csria2	<---	CSRAlign	1.196	.291	4.116	***	a13_1
csria4	<---	CSRAlign	1.208	.289	4.176	***	a14_1
teii1	<---	EnvTransp	1.000				
teii2	<---	EnvTransp	.892	.199	4.492	***	a15_1
teii4	<---	EnvTransp	.909	.216	4.209	***	a16_1
cnab2	<---	ComReact	1.000				
apepr2	<---	RiskAw	1.000				
eam4	<---	AcctProc	1.003	.153	6.571	***	a17_1

Standardized Regression Weights: (OMNCs - Unconstrained)

			Estimate
RiskAw	<---	NonCompli	.558
ComReact	<---	RiskAw	-.166
ComReact	<---	NonCompli	.713
AcctProc	<---	ComReact	.016
AcctProc	<---	RiskAw	.562
CoIntent	<---	AcctProc	.345
CoIntent	<---	ComReact	.396
CoComit	<---	CoIntent	.466
CoComit	<---	AcctProc	.243
CSRAlign	<---	AcctProc	.175
EnvTransp	<---	AcctProc	.558
eam1	<---	AcctProc	.843
eam2	<---	AcctProc	.757
eam3	<---	AcctProc	.738
cnab3	<---	ComReact	.868
cnab4	<---	ComReact	.685
npnid3	<---	NonCompli	.930
npnid2	<---	NonCompli	.693
npnid1	<---	NonCompli	.756
apepr3	<---	RiskAw	.618
apepr4	<---	RiskAw	.863
cbi1	<---	CoIntent	.905
cbi2	<---	CoIntent	.662
cbi3	<---	CoIntent	.724
cces1	<---	CoComit	.864
cces2	<---	CoComit	.776
cces4	<---	CoComit	.848
csria1	<---	CSRAlign	.671
csria2	<---	CSRAlign	.901
csria4	<---	CSRAlign	.773
teii1	<---	EnvTransp	.880
teii2	<---	EnvTransp	.734
teii4	<---	EnvTransp	.681
cnab2	<---	ComReact	.800
apepr2	<---	RiskAw	.863
eam4	<---	AcctProc	.868

Variances: (OMNCs - Unconstrained)

	Estimate	S.E.	C.R.	P	Label
NonCompli	.626	.232	2.699	.007	vvv1_1
z1	.581	.196	2.963	.003	vv1_1
z2	.371	.145	2.558	.011	vv2_1
z7	.608	.203	2.989	.003	vv6_1
z6	.499	.169	2.944	.003	vv7_1
z4	.414	.149	2.780	.005	vv3_1
z3	.523	.234	2.234	.026	vv4_1
z5	.497	.168	2.958	.003	vv5_1
E1	.290	.121	2.401	.016	v1_1
E2	.445	.108	4.109	***	v2_1
E3	.280	.117	2.395	.017	v3_1
E13	.364	.113	3.215	.001	v4_1
E14	.354	.093	3.817	***	v5_1
E15	.376	.096	3.895	***	v6_1
E16	.294	.101	2.914	.004	v7_1
E12	.125	.091	1.369	.171	v8_1
E11	.446	.112	3.977	***	v9_1
E10	.471	.128	3.678	***	v10_1
E4	.351	.114	3.067	.002	v11_1
E5	.146	.067	2.198	.028	v12_1
E6	.673	.175	3.846	***	v13_1
E20	.161	.109	1.486	.137	v14_1
E21	.342	.088	3.905	***	v15_1
E22	.407	.113	3.594	***	v16_1
E23	.268	.104	2.562	.010	v17_1
E24	.328	.093	3.538	***	v18_1
E25	.246	.088	2.792	.005	v19_1
E17	.658	.174	3.786	***	v20_1
E18	.179	.139	1.287	.198	v21_1
E19	.530	.180	2.940	.003	v22_1
E7	.175	.104	1.678	.093	v23_1
E8	.409	.121	3.368	***	v24_1
E9	.574	.154	3.718	***	v25_1

Squared Multiple Correlations: (OMNCs - Unconstrained)

	Estimate
RiskAw	.311
ComReact	.404
AcctProc	.321
CoIntent	.316
EnvTransp	.311
CSRAlign	.031
CoComit	.368
eam4	.754
apepr2	.744
cnab2	.640
teii4	.464
teii2	.539
teii1	.775
csria4	.598
csria2	.812
csria1	.451

	Estimate
cces4	.719
cces2	.602
cces1	.746
cbi3	.524
cbi2	.438
cbi1	.819
apepr4	.745
apepr3	.382
npnid1	.571
npnid2	.480
npnid3	.865
cnab4	.470
cnab3	.754
eam3	.544
eam2	.573
eam1	.711

10D: Structural Model Fit Summary of CNGOs Group before Modification

CMIN

Model	NPAR	CMIN	DF	P	CMIN/DF
Default model	61	463.913	264	.000	1.757
Saturated model	325	.000	0		
Independence model	25	1951.736	300	.000	6.506

RMR, GFI

Model	RMR	GFI	AGFI	PGFI
Default model	.097	.789	.740	.641
Saturated model	.000	1.000		
Independence model	.228	.371	.319	.343

Baseline Comparisons

Model	NFI Delta1	RFI rho1	IFI Delta2	TLI rho2	CFI
Default model	.762	.730	.882	.862	.879
Saturated model	1.000		1.000		1.000
Independence model	.000	.000	.000	.000	.000

RMSEA

Model	RMSEA	LO 90	HI 90	PCLOSE
Default model	.079	.067	.091	.000
Independence model	.213	.204	.222	.000

10E: Scalar Estimates before Modification (CNGOs - Unconstrained)

Maximum Likelihood Estimates

Regression Weights: (CNGOs - Unconstrained)

			Estimate	S.E.	C.R.	P	Label
RiskAw	<---	NonCompli	.352	.105	3.345	***	b1_2
ComReact	<---	RiskAw	.083	.101	.816	.414	b2_2
ComReact	<---	NonCompli	.303	.114	2.668	.008	b3_2
AcctProc	<---	ComReact	.015	.084	.174	.862	b4_2
AcctProc	<---	RiskAw	.225	.078	2.877	.004	b6_2
CoIntent	<---	AcctProc	.327	.125	2.606	.009	b5_2
CoIntent	<---	ComReact	.099	.098	1.010	.312	b7_2
CoComit	<---	CoIntent	.608	.089	6.817	***	b8_2
CoComit	<---	AcctProc	.208	.095	2.189	.029	b9_2
CSRAlign	<---	AcctProc	.283	.121	2.347	.019	b10_2
EnvTransp	<---	AcctProc	.302	.146	2.070	.038	b11_2
eam1	<---	AcctProc	1.000				
eam2	<---	AcctProc	.851	.105	8.127	***	a1_2
eam3	<---	AcctProc	.719	.101	7.121	***	a2_2
cnab3	<---	ComReact	.830	.097	8.538	***	a3_2
cnab4	<---	ComReact	.894	.104	8.559	***	a4_2
npnid3	<---	NonCompli	.839	.091	9.198	***	a5_2
npnid2	<---	NonCompli	.714	.091	7.831	***	a6_2
npnid1	<---	NonCompli	1.000				
apepr3	<---	RiskAw	.972	.077	12.666	***	a7_2
apepr4	<---	RiskAw	.867	.065	13.390	***	a8_2
cbi1	<---	CoIntent	1.000				
cbi2	<---	CoIntent	.912	.101	8.994	***	a9_2
cbi3	<---	CoIntent	.936	.099	9.497	***	a10_2
cces1	<---	CoComit	1.000				
cces2	<---	CoComit	.674	.099	6.795	***	a11_2
cces4	<---	CoComit	.896	.104	8.596	***	a12_2
csria1	<---	CSRAlign	1.000				
csria2	<---	CSRAlign	.797	.137	5.822	***	a13_2
csria4	<---	CSRAlign	.936	.159	5.872	***	a14_2
teii1	<---	EnvTransp	1.000				
teii2	<---	EnvTransp	.979	.069	14.280	***	a15_2
teii4	<---	EnvTransp	.984	.071	13.825	***	a16_2
cnab2	<---	ComReact	1.000				
apepr2	<---	RiskAw	1.000				
eam4	<---	AcctProc	.799	.099	8.091	***	a17_2

Standardized Regression Weights: (CNGOs - Unconstrained)

			Estimate
RiskAw	<---	NonCompli	.333
ComReact	<---	RiskAw	.086
ComReact	<---	NonCompli	.299
AcctProc	<---	ComReact	.018
AcctProc	<---	RiskAw	.293
CoIntent	<---	AcctProc	.275
CoIntent	<---	ComReact	.104

			Estimate
CoComit	<---	CoIntent	.666
CoComit	<---	AcctProc	.192
CSRAlign	<---	AcctProc	.267
EnvTransp	<---	AcctProc	.210
eam1	<---	AcctProc	.867
eam2	<---	AcctProc	.718
eam3	<---	AcctProc	.639
cnab3	<---	ComReact	.780
cnab4	<---	ComReact	.783
npnid3	<---	NonCompli	.846
npnid2	<---	NonCompli	.690
npnid1	<---	NonCompli	.860
apepr3	<---	RiskAw	.832
apepr4	<---	RiskAw	.858
cbi1	<---	CoIntent	.854
cbi2	<---	CoIntent	.763
cbi3	<---	CoIntent	.802
cces1	<---	CoComit	.895
cces2	<---	CoComit	.609
cces4	<---	CoComit	.753
csria1	<---	CSRAlign	.735
csria2	<---	CSRAlign	.692
csria4	<---	CSRAlign	.729
teii1	<---	EnvTransp	.883
teii2	<---	EnvTransp	.916
teii4	<---	EnvTransp	.895
cnab2	<---	ComReact	.844
apepr2	<---	RiskAw	.944
eam4	<---	AcctProc	.715

Variances: (CNGOs - Unconstrained)

	Estimate	S.E.	C.R.	P	Label
NonCompli	.733	.137	5.348	***	vvv1_2
z1	.728	.112	6.486	***	vv1_2
z2	.666	.131	5.080	***	vv2_2
z7	.439	.082	5.386	***	vv6_2
z6	.620	.116	5.347	***	vv7_2
z4	.952	.159	6.005	***	vv3_2
z3	.503	.130	3.856	***	vv4_2
z5	.254	.061	4.164	***	vv5_2
E1	.100	.038	2.617	.009	v1_2
E2	.345	.056	6.120	***	v2_2
E3	.220	.039	5.587	***	v3_2
E13	.159	.042	3.768	***	v4_2
E14	.327	.052	6.297	***	v5_2
E15	.360	.053	6.849	***	v6_2
E16	.293	.046	6.324	***	v7_2
E12	.205	.050	4.111	***	v8_2
E11	.412	.062	6.615	***	v9_2
E10	.259	.069	3.764	***	v10_2
E4	.303	.074	4.080	***	v11_2
E5	.333	.061	5.427	***	v12_2
E6	.380	.071	5.378	***	v13_2
E20	.253	.057	4.435	***	v14_2

	Estimate	S.E.	C.R.	P	Label
E21	.408	.067	6.054	***	v15_2
E22	.331	.060	5.494	***	v16_2
E23	.140	.048	2.909	.004	v17_2
E24	.438	.062	7.038	***	v18_2
E25	.349	.059	5.921	***	v19_2
E17	.462	.098	4.717	***	v20_2
E18	.374	.069	5.409	***	v21_2
E19	.419	.087	4.819	***	v22_2
E7	.281	.052	5.399	***	v23_2
E8	.184	.043	4.285	***	v24_2
E9	.239	.048	5.024	***	v25_2

Squared Multiple Correlations: (CNGOs - Unconstrained)

	Estimate
RiskAw	.111
ComReact	.114
AcctProc	.088
CoIntent	.090
EnvTransp	.044
CSRAlign	.071
CoComit	.553
eam4	.512
apepr2	.891
cnab2	.713
teii4	.801
teii2	.838
teii1	.780
csria4	.531
csria2	.479
csria1	.540
cces4	.567
cces2	.371
cces1	.802
cbi3	.643
cbi2	.582
cbi1	.729
apepr4	.736
apepr3	.692
npnid1	.739
npnid2	.476
npnid3	.715
cnab4	.613
cnab3	.608
eam3	.409
eam2	.516
eam1	.752

10F: Structural Model Fit Summary of EXPTs Group BEFORE Modification

CMIN

Model	NPAR	CMIN	DF	P	CMIN/DF
Default model	61	448.325	264	.000	1.698
Saturated model	325	.000	0		
Independence model	25	2387.090	300	.000	7.957

RMR, GFI

Model	RMR	GFI	AGFI	PGFI
Default model	.104	.801	.756	.651
Saturated model	.000	1.000		
Independence model	.265	.360	.307	.332

Baseline Comparisons

Model	NFI Delta1	RFI rho1	IFI Delta2	TLI rho2	CFI
Default model	.812	.787	.913	.900	.912
Saturated model	1.000		1.000		1.000
Independence model	.000	.000	.000	.000	.000

RMSEA

Model	RMSEA	LO 90	HI 90	PCLOSE
Default model	.071	.060	.082	.002
Independence model	.225	.216	.233	.000

10G: Scalar Estimates before Modification (EXPTs - Unconstrained)

Maximum Likelihood Estimates

Regression Weights: (EXPTs - Unconstrained)

			Estimate	S.E.	C.R.	P	Label
RiskAw	<---	NonCompli	.107	.081	1.327	.184	b1_3
ComReact	<---	RiskAw	.556	.116	4.809	***	b2_3
ComReact	<---	NonCompli	.044	.085	.520	.603	b3_3
AcctProc	<---	ComReact	.151	.115	1.317	.188	b4_3
AcctProc	<---	RiskAw	-.006	.142	-.044	.965	b6_3
CoIntent	<---	AcctProc	.216	.079	2.735	.006	b5_3
CoIntent	<---	ComReact	.214	.087	2.451	.014	b7_3

			Estimate	S.E.	C.R.	P	Label
CoComit	<---	CoIntent	.179	.088	2.021	.043	b8_3
CoComit	<---	AcctProc	.508	.078	6.528	***	b9_3
CSRAlign	<---	AcctProc	.148	.075	1.980	.048	b10_3
EnvTransp	<---	AcctProc	.146	.081	1.809	.070	b11_3
eam1	<---	AcctProc	1.000				
eam2	<---	AcctProc	.797	.068	11.667	***	a1_3
eam3	<---	AcctProc	.696	.064	10.914	***	a2_3
cnab3	<---	ComReact	1.067	.081	13.212	***	a3_3
cnab4	<---	ComReact	1.084	.076	14.333	***	a4_3
npnid3	<---	NonCompli	.916	.082	11.235	***	a5_3
npnid2	<---	NonCompli	.911	.081	11.177	***	a6_3
npnid1	<---	NonCompli	1.000				
apepr3	<---	RiskAw	1.081	.122	8.876	***	a7_3
apepr4	<---	RiskAw	1.137	.123	9.268	***	a8_3
cbi1	<---	CoIntent	1.000				
cbi2	<---	CoIntent	.996	.097	10.243	***	a9_3
cbi3	<---	CoIntent	1.056	.104	10.160	***	a10_3
cces1	<---	CoComit	1.000				
cces2	<---	CoComit	.998	.082	12.132	***	a11_3
cces4	<---	CoComit	.960	.082	11.773	***	a12_3
csria1	<---	CSRAlign	1.000				
csria2	<---	CSRAlign	.848	.078	10.852	***	a13_3
csria4	<---	CSRAlign	.922	.084	10.943	***	a14_3
teii1	<---	EnvTransp	1.000				
teii2	<---	EnvTransp	.798	.094	8.520	***	a15_3
teii4	<---	EnvTransp	.962	.106	9.117	***	a16_3
cnab2	<---	ComReact	1.000				
apepr2	<---	RiskAw	1.000				
eam4	<---	AcctProc	.797	.064	12.512	***	a17_3

Standardized Regression Weights: (EXPTs - Unconstrained)

			Estimate
RiskAw	<---	NonCompli	.131
ComReact	<---	RiskAw	.467
ComReact	<---	NonCompli	.045
AcctProc	<---	ComReact	.139
AcctProc	<---	RiskAw	-.005
CoIntent	<---	AcctProc	.249
CoIntent	<---	ComReact	.227
CoComit	<---	CoIntent	.170
CoComit	<---	AcctProc	.557
CSRAlign	<---	AcctProc	.181
EnvTransp	<---	AcctProc	.170
eam1	<---	AcctProc	.974
eam2	<---	AcctProc	.750
eam3	<---	AcctProc	.722
cnab3	<---	ComReact	.866
cnab4	<---	ComReact	.925
npnid3	<---	NonCompli	.839
npnid2	<---	NonCompli	.834
npnid1	<---	NonCompli	.865
apepr3	<---	RiskAw	.777
apepr4	<---	RiskAw	.840
cbi1	<---	CoIntent	.825

			Estimate
cbi2	<---	CoIntent	.833
cbi3	<---	CoIntent	.823
cces1	<---	CoComit	.863
cces2	<---	CoComit	.859
cces4	<---	CoComit	.838
csria1	<---	CSRAlign	.892
csria2	<---	CSRAlign	.809
csria4	<---	CSRAlign	.816
teii1	<---	EnvTransp	.857
teii2	<---	EnvTransp	.727
teii4	<---	EnvTransp	.810
cnab2	<---	ComReact	.862
apepr2	<---	RiskAw	.787
eam4	<---	AcctProc	.778

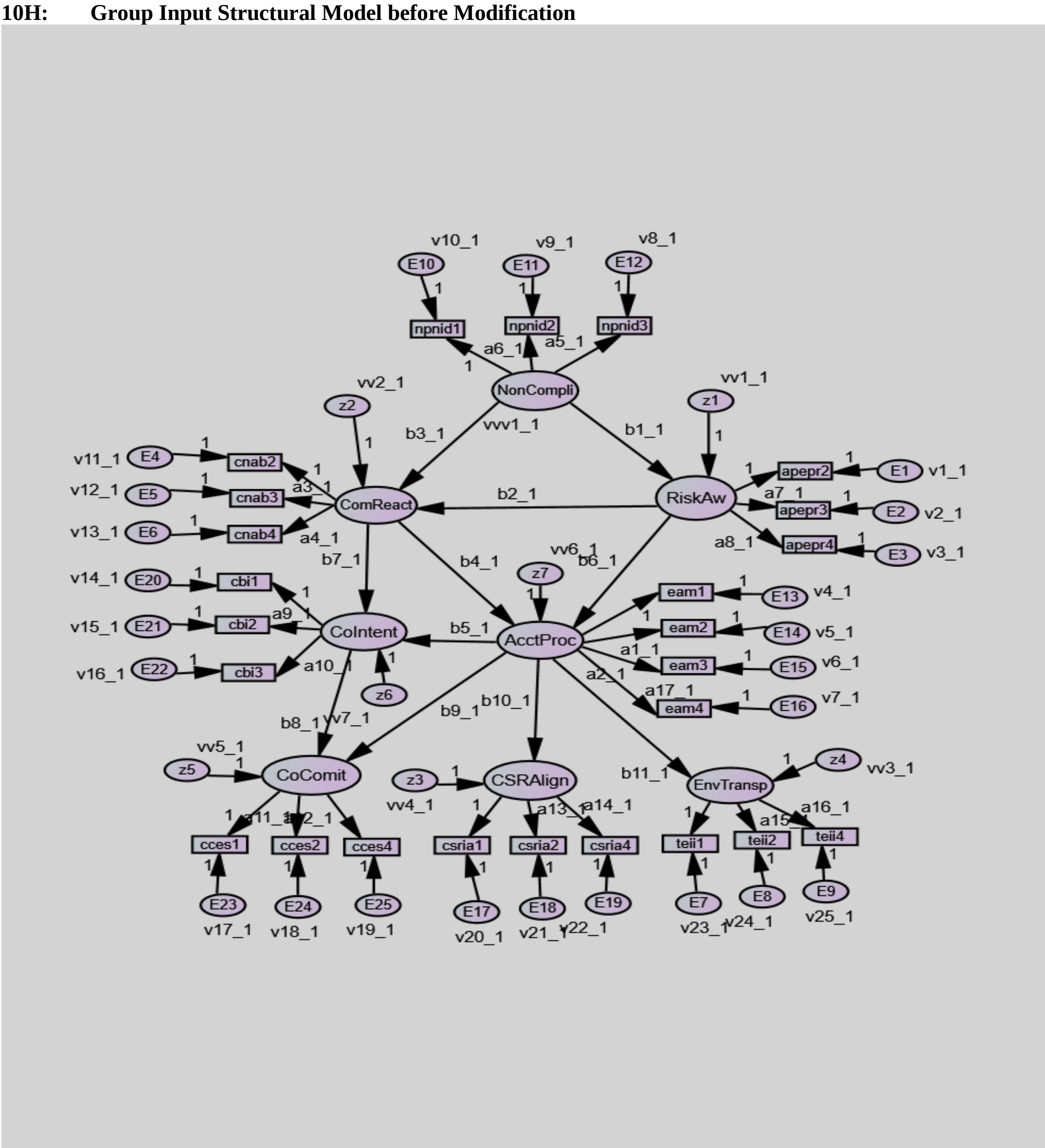
Variances: (EXPTs - Unconstrained)

	Estimate	S.E.	C.R.	P	Label
NonCompli	.853	.142	6.000	***	vvv1_3
z1	.562	.110	5.095	***	vv1_3
z2	.627	.106	5.910	***	vv2_3
z7	.938	.124	7.547	***	vv6_3
z6	.628	.115	5.455	***	vv7_3
z4	.691	.124	5.566	***	vv3_3
z3	.613	.099	6.204	***	vv4_3
z5	.482	.085	5.661	***	vv5_3
E1	.350	.061	5.724	***	v1_3
E2	.440	.074	5.920	***	v2_3
E3	.309	.067	4.578	***	v3_3
E13	.051	.036	1.440	.150	v4_3
E14	.474	.063	7.561	***	v5_3
E15	.426	.055	7.708	***	v6_3
E16	.395	.054	7.354	***	v7_3
E12	.302	.056	5.436	***	v8_3
E11	.311	.056	5.557	***	v9_3
E10	.288	.061	4.734	***	v10_3
E4	.281	.047	6.033	***	v11_3
E5	.306	.052	5.915	***	v12_3
E6	.161	.042	3.869	***	v13_3
E20	.338	.063	5.398	***	v14_3
E21	.317	.061	5.225	***	v15_3
E22	.384	.070	5.449	***	v16_3
E23	.273	.052	5.289	***	v17_3
E24	.280	.052	5.380	***	v18_3
E25	.311	.053	5.879	***	v19_3
E17	.162	.044	3.731	***	v20_3
E18	.240	.040	5.957	***	v21_3
E19	.270	.046	5.813	***	v22_3
E7	.258	.067	3.845	***	v23_3
E8	.403	.062	6.533	***	v24_3
E9	.346	.069	5.011	***	v25_3

Squared Multiple Correlations: (EXPTs - Unconstrained)

	Estimate
RiskAw	.017
ComReact	.226
AcctProc	.019
CoIntent	.129
EnvTransp	.029
CSRAlign	.033
CoComit	.393
eam4	.606
apepr2	.620
cnab2	.742
teii4	.656
teii2	.529
teii1	.734
csria4	.666
csria2	.655
csria1	.796
cces4	.702
cces2	.738
cces1	.744
cbi3	.677
cbi2	.693
cbi1	.681
apepr4	.705
apepr3	.603
npnid1	.748
npnid2	.695
npnid3	.703
cnab4	.855
cnab3	.751
eam3	.521
eam2	.562
eam1	.949

10H: Group Input Structural Model before Modification



10(I): Group Model Fit Summary before Modification

CMIN

Model	NPAR	CMIN	DF	P	CMIN/DF
Unconstrained	183	1332.805	792	.000	1.683
Measurement weights	149	1374.731	826	.000	1.664
Structural weights	127	1431.835	848	.000	1.688
Saturated model	975	.000	0		
Independence model	75	5245.580	900	.000	5.828

RMR, GFI

Model	RMR	GFI	AGFI	PGFI
Unconstrained	.117	.761	.706	.618
Measurement weights	.120	.754	.709	.639
Structural weights	.145	.745	.707	.648
Saturated model	.000	1.000		
Independence model	.270	.349	.294	.322

Baseline Comparisons

Model	NFI Delta1	RFI rho1	IFI Delta2	TLI rho2	CFI
Unconstrained	.746	.711	.879	.859	.876
Measurement weights	.738	.714	.876	.862	.874
Structural weights	.727	.710	.867	.857	.866
Saturated model	1.000		1.000		1.000
Independence model	.000	.000	.000	.000	.000

RMSEA

Model	RMSEA	LO 90	HI 90	PCLOSE
Unconstrained	.048	.043	.052	.791
Measurement weights	.047	.043	.051	.858
Structural weights	.048	.044	.052	.778
Independence model	.127	.124	.130	.000

Nested Model Comparisons before Structural Modification – Assuming model Unconstrained to be correct:

Model	DF	CMIN	P	NFI Delta-1	IFI Delta-2	RFI rho-1	TLI rho2
Measurement weights	34	41.926	.165	.008	.009	-.003	-.004
Structural weights	56	99.029	.000	.019	.022	.001	.001

Assuming model Measurement weights to be correct:

Model	DF	CMIN	P	NFI Delta-1	IFI Delta-2	RFI rho-1	TLI rho2
Structural weights	22	57.104	.000	.011	.013	.004	.005

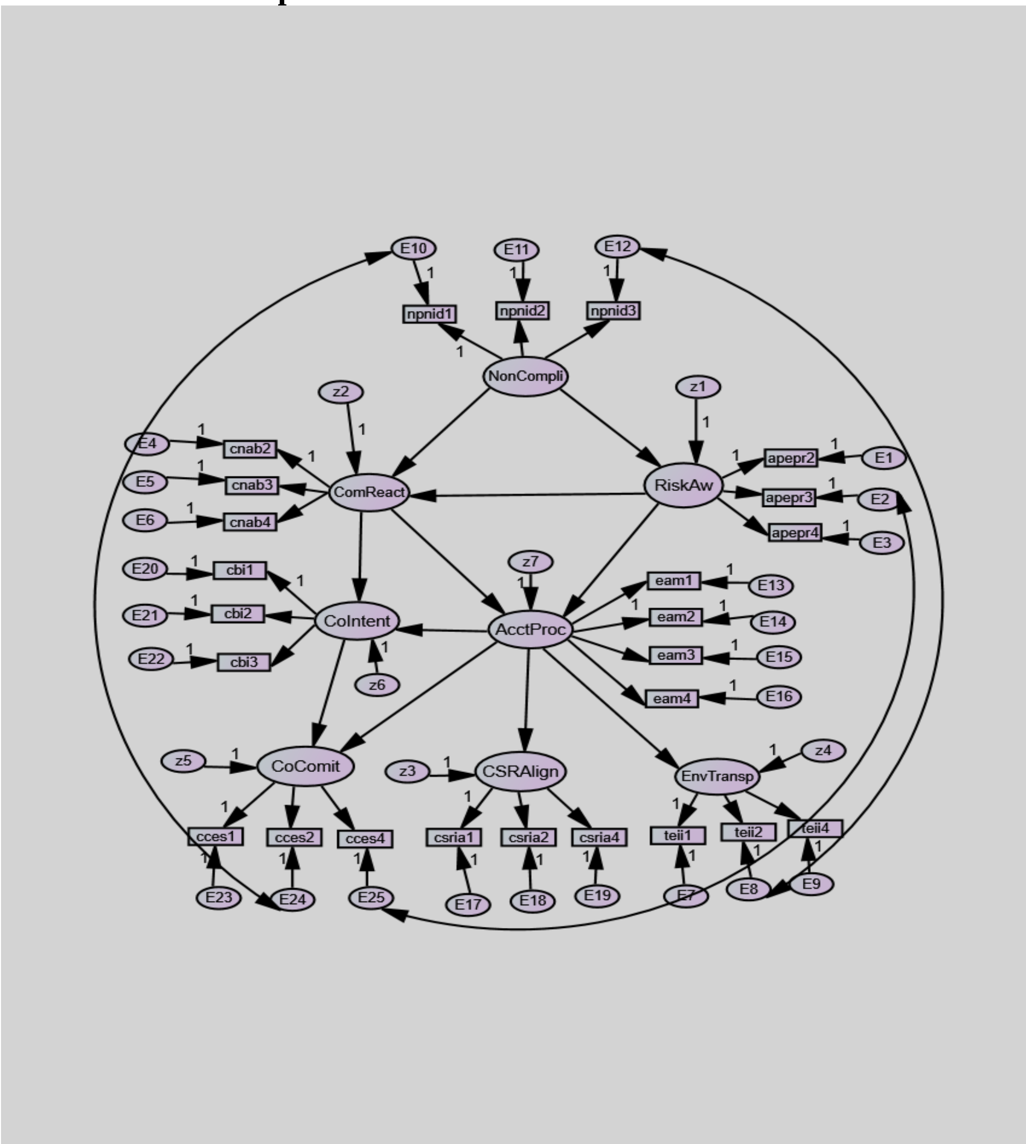
10J: Structural Model Modification Indices – Covariances: (OMNCs - Default model)

			M.I.	Par Change
z4	<-->	NonCompli	4.383	.203
z3	<-->	NonCompli	7.483	.280

			M.I.	Par Change
E9	<-->	z2	4.516	-.194
E7	<-->	z2	5.395	.155
E25	<-->	E19	5.309	.175
E24	<-->	E16	4.505	.138
E24	<-->	E8	7.498	.192
E24	<-->	E17	6.925	.226
E22	<-->	E24	5.985	.168
E20	<-->	E25	8.405	.164
E20	<-->	E24	4.342	-.126
E3	<-->	z4	4.766	.168
E2	<-->	E17	7.085	-.251
E2	<-->	E25	10.420	.210
E2	<-->	E24	10.333	-.223
E2	<-->	E23	4.039	-.141
E2	<-->	E20	5.245	.152
E10	<-->	E24	4.067	.148
E11	<-->	E18	4.812	.155
E11	<-->	E3	6.718	.189
E12	<-->	z5	4.682	.153
E12	<-->	E8	8.929	.186
E15	<-->	z2	4.095	.149
E15	<-->	E25	6.101	.151
E15	<-->	E23	4.346	-.138
E15	<-->	E2	4.558	.153
E13	<-->	E9	4.010	.178
E13	<-->	E17	5.962	-.230
E13	<-->	E22	4.192	-.154

Appendix 11: Structural Model Modification

11A: Structural Input Model Modification



11B: Model Fit Summary of OMNCs after Structural Model Modification

CMIN

Model	NPAR	CMIN	DF	P	CMIN/DF
Default model	64	381.459	261	.000	1.462
Saturated model	325	.000	0		
Independence model	25	903.373	300	.000	3.011

RMR, GFI

Model	RMR	GFI	AGFI	PGFI
Default model	.144	.631	.541	.507
Saturated model	.000	1.000		
Independence model	.311	.271	.210	.250

Baseline Comparisons

Model	NFI Delta1	RFI rho1	IFI Delta2	TLI rho2	CFI
Default model	.578	.515	.812	.771	.800
Saturated model	1.000		1.000		1.000
Independence model	.000	.000	.000	.000	.000

RMSEA

Model	RMSEA	LO 90	HI 90	PCLOSE
Default model	.107	.083	.130	.000
Independence model	.224	.208	.241	.000

11C: Scalar Estimates after Modification (OMNCs - Default model)
Maximum Likelihood Estimates

Regression Weights: (OMNCs - Default model)

			Estimate	S.E.	C.R.	P	Label
RiskAw	<---	NonCompli	.587	.183	3.214	.001	par_1
ComReact	<---	RiskAw	-.195	.154	-1.268	.205	par_2
ComReact	<---	NonCompli	.739	.199	3.715	***	par_3
AcctProc	<---	ComReact	.043	.195	.220	.826	par_4
AcctProc	<---	RiskAw	.574	.178	3.227	.001	par_6
CoIntent	<---	AcctProc	.302	.145	2.090	.037	par_5
CoIntent	<---	ComReact	.463	.186	2.485	.013	par_7
CoComit	<---	CoIntent	.437	.187	2.329	.020	par_18
CoComit	<---	AcctProc	.179	.157	1.139	.255	par_19
CSRAlign	<---	AcctProc	.134	.139	.966	.334	par_20
EnvTransp	<---	AcctProc	.467	.141	3.317	***	par_21
eam1	<---	AcctProc	1.000				
eam2	<---	AcctProc	.729	.133	5.492	***	par_8
eam3	<---	AcctProc	.706	.134	5.273	***	par_9
cnab3	<---	ComReact	.847	.161	5.274	***	par_10
cnab4	<---	ComReact	1.027	.230	4.467	***	par_11
npnid3	<---	NonCompli	.998	.148	6.721	***	par_12
npnid2	<---	NonCompli	.784	.154	5.102	***	par_13
npnid1	<---	NonCompli	1.000				
apepr3	<---	RiskAw	.566	.115	4.903	***	par_14
apepr4	<---	RiskAw	.965	.156	6.192	***	par_15
cbi1	<---	CoIntent	1.000				
cbi2	<---	CoIntent	.606	.142	4.279	***	par_16
cbi3	<---	CoIntent	.786	.167	4.703	***	par_17
cces1	<---	CoComit	1.000				
cces2	<---	CoComit	.886	.126	7.022	***	par_22
cces4	<---	CoComit	1.010	.133	7.620	***	par_23

			Estimate	S.E.	C.R.	P	Label
csria1	<---	CSRAlign	1.000				
csria2	<---	CSRAlign	1.196	.291	4.115	***	par_24
csria4	<---	CSRAlign	1.208	.289	4.175	***	par_25
teii1	<---	EnvTransp	1.000				
teii2	<---	EnvTransp	.779	.165	4.728	***	par_26
teii4	<---	EnvTransp	.856	.204	4.196	***	par_27
cnab2	<---	ComReact	1.000				
apepr2	<---	RiskAw	1.000				
eam4	<---	AcctProc	.997	.152	6.566	***	par_28

Standardized Regression Weights: (OMNCs - Default model)

			Estimate
RiskAw	<---	NonCompli	.543
ComReact	<---	RiskAw	-.234
ComReact	<---	NonCompli	.817
AcctProc	<---	ComReact	.035
AcctProc	<---	RiskAw	.562
CoIntent	<---	AcctProc	.336
CoIntent	<---	ComReact	.422
CoComit	<---	CoIntent	.427
CoComit	<---	AcctProc	.195
CSRAlign	<---	AcctProc	.173
EnvTransp	<---	AcctProc	.557
eam1	<---	AcctProc	.846
eam2	<---	AcctProc	.759
eam3	<---	AcctProc	.738
cnab3	<---	ComReact	.853
cnab4	<---	ComReact	.708
npnid3	<---	NonCompli	.886
npnid2	<---	NonCompli	.727
npnid1	<---	NonCompli	.766
apepr3	<---	RiskAw	.621
apepr4	<---	RiskAw	.855
cbi1	<---	CoIntent	.903
cbi2	<---	CoIntent	.662
cbi3	<---	CoIntent	.724
cces1	<---	CoComit	.848
cces2	<---	CoComit	.823
cces4	<---	CoComit	.874
csria1	<---	CSRAlign	.671
csria2	<---	CSRAlign	.901
csria4	<---	CSRAlign	.773
teii1	<---	EnvTransp	.903
teii2	<---	EnvTransp	.684
teii4	<---	EnvTransp	.658
cnab2	<---	ComReact	.787
apepr2	<---	RiskAw	.873
eam4	<---	AcctProc	.865

Covariances: (OMNCs - Default model)

			Estimate	S.E.	C.R.	P	Label
E2	<-->	E25	.246	.075	3.287	.001	par_29
E12	<-->	E8	.230	.074	3.122	.002	par_30
E10	<-->	E24	.229	.079	2.913	.004	par_31

Correlations: (OMNCs - Default model)

			Estimate
E2	<-->	E25	.759
E12	<-->	E8	.776
E10	<-->	E24	.597

Variances: (OMNCs - Default model)

	Estimate	S.E.	C.R.	P	Label
NonCompli	.738	.242	3.044	.002	par_94
z1	.608	.197	3.087	.002	par_95
z2	.293	.123	2.388	.017	par_96
z7	.607	.202	3.005	.003	par_97
z6	.483	.167	2.898	.004	par_98
z4	.436	.151	2.899	.004	par_99
z3	.524	.234	2.233	.026	par_100
z5	.541	.172	3.135	.002	par_101
E4	.370	.114	3.243	.001	par_102
E5	.162	.065	2.503	.012	par_103
E22	.406	.114	3.576	***	par_104
E21	.342	.088	3.898	***	par_105
E20	.164	.110	1.495	.135	par_106
E6	.633	.168	3.756	***	par_107
E10	.520	.136	3.813	***	par_108
E11	.406	.101	4.017	***	par_109
E12	.201	.085	2.371	.018	par_110
E1	.270	.111	2.424	.015	par_111
E2	.438	.106	4.123	***	par_112
E3	.295	.110	2.682	.007	par_113
E13	.359	.113	3.185	.001	par_114
E14	.351	.092	3.804	***	par_115
E15	.376	.097	3.894	***	par_116
E16	.300	.102	2.945	.003	par_117
E9	.608	.156	3.901	***	par_118
E8	.437	.118	3.702	***	par_119
E7	.144	.101	1.423	.155	par_120
E19	.530	.180	2.941	.003	par_121
E18	.179	.139	1.285	.199	par_122
E17	.658	.174	3.786	***	par_123
E25	.239	.085	2.818	.005	par_124
E24	.284	.079	3.580	***	par_125
E23	.295	.086	3.449	***	par_126

Squared Multiple Correlations: (OMNCs - Default model)

	Estimate
RiskAw	.295
ComReact	.515
AcctProc	.325
CoIntent	.335
EnvTransp	.310
CSRAlign	.030
CoComit	.287
eam4	.749
apepr2	.762
cnab2	.620
teii4	.433
teii2	.468
teii1	.815
csria4	.598

	Estimate
csria2	.812
csria1	.451
cces4	.764
cces2	.678
cces1	.720
cbi3	.525
cbi2	.438
cbi1	.816
apepr4	.732
apepr3	.386
npnid1	.587
npnid2	.528
npnid3	.785
cnab4	.501
cnab3	.727
eam3	.544
eam2	.577
eam1	.715

11D: Model Fit Summary of CNGOs Group after Structural Model Modification

CMIN

Model	NPAR	CMIN	DF	P	CMIN/DF
Default model	64	450.907	261	.000	1.728
Saturated model	325	.000	0		
Independence model	25	1951.736	300	.000	6.506

RMR, GFI

Model	RMR	GFI	AGFI	PGFI
Default model	.095	.791	.739	.635
Saturated model	.000	1.000		
Independence model	.228	.371	.319	.343

Baseline Comparisons

Model	NFI Delta1	RFI rho1	IFI Delta2	TLI rho2	CFI
Default model	.769	.734	.888	.868	.885
Saturated model	1.000		1.000		1.000
Independence model	.000	.000	.000	.000	.000

RMSEA

Model	RMSEA	LO 90	HI 90	PCLOSE
Default model	.078	.065	.089	.000
Independence model	.213	.204	.222	.000

11E: Scalar Estimates after Modification (CNGOs - Default model)
Maximum Likelihood Estimates

Regression Weights: (CNGOs - Default model)

			Estimate	S.E.	C.R.	P	Label
RiskAw	<---	NonCompli	.345	.104	3.305***	***	par_32
ComReact	<---	RiskAw	.078	.100	.779ns	.436	par_33
ComReact	<---	NonCompli	.310	.112	2.766**	.006	par_34
AcctProc	<---	ComReact	.018	.084	.219 ns	.826	par_35
AcctProc	<---	RiskAw	.220	.078	2.836**	.005	par_37
CoIntent	<---	AcctProc	.329	.126	2.603**	.009	par_36
CoIntent	<---	ComReact	.104	.099	1.051 ns	.293	par_38
CoComit	<---	CoIntent	.585	.087	6.749***	***	par_49
CoComit	<---	AcctProc	.242	.093	2.607**	.009	par_50
CSRAlign	<---	AcctProc	.286	.121	2.362**	.018	par_51
EnvTransp	<---	AcctProc	.305	.146	2.090**	.037	par_52
eam1	<---	AcctProc	1.000				
eam2	<---	AcctProc	.854	.105	8.131	***	par_39
eam3	<---	AcctProc	.722	.101	7.121	***	par_40
cnab3	<---	ComReact	.831	.097	8.540	***	par_41
cnab4	<---	ComReact	.896	.105	8.568	***	par_42
npnid3	<---	NonCompli	.823	.089	9.267	***	par_43
npnid2	<---	NonCompli	.712	.090	7.923	***	par_44
npnid1	<---	NonCompli	1.000				
apepr3	<---	RiskAw	.961	.073	13.095	***	par_45
apepr4	<---	RiskAw	.864	.064	13.591	***	par_46
cbi1	<---	CoIntent	1.000				
cbi2	<---	CoIntent	.904	.100	9.025	***	par_47
cbi3	<---	CoIntent	.922	.097	9.481	***	par_48
cces1	<---	CoComit	1.000				
cces2	<---	CoComit	.686	.101	6.819	***	par_53
cces4	<---	CoComit	.982	.106	9.311	***	par_54
csria1	<---	CSRAlign	1.000				
csria2	<---	CSRAlign	.797	.137	5.823	***	par_55
csria4	<---	CSRAlign	.935	.159	5.874	***	par_56
teii1	<---	EnvTransp	1.000				
teii2	<---	EnvTransp	.981	.069	14.279	***	par_57
teii4	<---	EnvTransp	.986	.071	13.835	***	par_58
cnab2	<---	ComReact	1.000				
apepr2	<---	RiskAw	1.000				
eam4	<---	AcctProc	.803	.099	8.100	***	par_59

Standardized Regression Weights: (CNGOs - Default model)

			Estimate
RiskAw	<---	NonCompli	.328
ComReact	<---	RiskAw	.082
ComReact	<---	NonCompli	.309
AcctProc	<---	ComReact	.023
AcctProc	<---	RiskAw	.288
CoIntent	<---	AcctProc	.274
CoIntent	<---	ComReact	.108
CoComit	<---	CoIntent	.663

			Estimate
CoComit	<---	AcctProc	.228
CSRAlign	<---	AcctProc	.269
EnvTransp	<---	AcctProc	.212
eam1	<---	AcctProc	.865
eam2	<---	AcctProc	.719
eam3	<---	AcctProc	.640
cnab3	<---	ComReact	.780
cnab4	<---	ComReact	.784
npnid3	<---	NonCompli	.837
npnid2	<---	NonCompli	.694
npnid1	<---	NonCompli	.865
apepr3	<---	RiskAw	.828
apepr4	<---	RiskAw	.858
cbi1	<---	CoIntent	.860
cbi2	<---	CoIntent	.761
cbi3	<---	CoIntent	.796
cces1	<---	CoComit	.872
cces2	<---	CoComit	.602
cces4	<---	CoComit	.787
csria1	<---	CSRAlign	.735
csria2	<---	CSRAlign	.692
csria4	<---	CSRAlign	.729
teii1	<---	EnvTransp	.882
teii2	<---	EnvTransp	.916
teii4	<---	EnvTransp	.896
cnab2	<---	ComReact	.843
apepr2	<---	RiskAw	.947
eam4	<---	AcctProc	.717

Covariances: (CNGOs - Default model)

			Estimate	S.E.	C.R.	P	Label
E2	<-->	E25	.118	.039	3.063	.002	par_60
E12	<-->	E8	.014	.028	.503	.615	par_61
E10	<-->	E24	-.077	.041	-1.850	.064	par_62

Correlations: (CNGOs - Default model)

			Estimate
E2	<-->	E25	.356
E12	<-->	E8	.070
E10	<-->	E24	-.229

Variances: (CNGOs - Default model)

	Estimate	S.E.	C.R.	P	Label
NonCompli	.746	.137	5.444	***	par_127
z1	.735	.112	6.546	***	par_128
z2	.661	.130	5.070	***	par_129
z7	.438	.081	5.373	***	par_130
z6	.628	.116	5.399	***	par_131
z4	.949	.158	5.996	***	par_132
z3	.502	.130	3.856	***	par_133
z5	.227	.055	4.137	***	par_134
E4	.304	.074	4.108	***	par_135
E5	.334	.061	5.431	***	par_136
E22	.340	.061	5.602	***	par_137
E21	.410	.067	6.079	***	par_138
E20	.243	.057	4.294	***	par_139
E6	.378	.071	5.364	***	par_140

	Estimate	S.E.	C.R.	P	Label
E10	.252	.069	3.653	***	par_141
E11	.407	.062	6.604	***	par_142
E12	.216	.050	4.353	***	par_143
E1	.095	.037	2.574	.010	par_144
E2	.348	.056	6.202	***	par_145
E3	.221	.039	5.696	***	par_146
E13	.161	.042	3.841	***	par_147
E14	.326	.052	6.291	***	par_148
E15	.360	.053	6.845	***	par_149
E16	.292	.046	6.314	***	par_150
E9	.237	.047	5.002	***	par_151
E8	.184	.043	4.280	***	par_152
E7	.283	.052	5.430	***	par_153
E19	.419	.087	4.820	***	par_154
E18	.375	.069	5.410	***	par_155
E17	.462	.098	4.717	***	par_156
E25	.319	.058	5.490	***	par_157
E24	.446	.063	7.076	***	par_158
E23	.170	.046	3.727	***	par_159

Squared Multiple Correlations: (CNGOs - Default model)

	Estimate
RiskAw	.108
ComReact	.119
AcctProc	.086
CoIntent	.091
EnvTransp	.045
CSRAlign	.072
CoComit	.578
eam4	.513
apepr2	.896
cnab2	.711
teii4	.803
teii2	.839
teii1	.778
csria4	.531
csria2	.478
csria1	.540
cces4	.620
cces2	.362
cces1	.760
cbi3	.634
cbi2	.580
cbi1	.740
apepr4	.736
apepr3	.686
npnid1	.748
npnid2	.481
npnid3	.701
cnab4	.614
cnab3	.608
eam3	.410
eam2	.517
eam1	.748

11F: Model Fit Summary of EXPTs Group AFTER Structural Model Modification

CMIN

Model	NPAR	CMIN	DF	P	CMIN/DF
Default model	64	446.650	261	.000	1.711
Saturated model	325	.000	0		
Independence model	25	2387.090	300	.000	7.957

RMR, GFI

Model	RMR	GFI	AGFI	PGFI
Default model	.104	.802	.753	.644
Saturated model	.000	1.000		
Independence model	.265	.360	.307	.332

Baseline Comparisons

Model	NFI Delta1	RFI rho1	IFI Delta2	TLI rho2	CFI
Default model	.813	.785	.913	.898	.911
Saturated model	1.000		1.000		1.000
Independence model	.000	.000	.000	.000	.000

RMSEA

Model	RMSEA	LO 90	HI 90	PCLOSE
Default model	.072	.060	.083	.001
Independence model	.225	.216	.233	.000

11G: Scalar Estimates after Modification (EXPTs - Default model)
Maximum Likelihood Estimates

Regression Weights: (EXPTs - Default model)

			Estimate	S.E.	C.R.	P	Label
RiskAw	<---	NonCompli	.108	.080	1.337^{ns}	.181	par_63
ComReact	<---	RiskAw	.556	.116	4.806^{***}	***	par_64
ComReact	<---	NonCompli	.045	.085	$.533^{ns}$	.594	par_65
AcctProc	<---	ComReact	.152	.115	1.322^{ns}	.186	par_66
AcctProc	<---	RiskAw	-.008	.142	$-.054^{ns}$	.957	par_68
CoIntent	<---	AcctProc	.216	.079	2.735^{**}	.006	par_67
CoIntent	<---	ComReact	.214	.087	2.452^{**}	.014	par_69
CoComit	<---	CoIntent	.178	.088	2.019^{**}	.044	par_80
CoComit	<---	AcctProc	.508	.078	6.539^{***}	***	par_81
CSRAlign	<---	AcctProc	.148	.075	1.978^{**}	.048	par_82
EnvTransp	<---	AcctProc	.146	.081	1.788^{*}	.074	par_83
eam1	<---	AcctProc	1.000				
eam2	<---	AcctProc	.797	.068	11.666	***	par_70
eam3	<---	AcctProc	.696	.064	10.915	***	par_71

			Estimate	S.E.	C.R.	P	Label
cnab3	<---	ComReact	1.067	.081	13.210	***	par_72
cnab4	<---	ComReact	1.085	.076	14.333	***	par_73
npnid3	<---	NonCompli	.908	.081	11.230	***	par_74
npnid2	<---	NonCompli	.908	.081	11.159	***	par_75
npnid1	<---	NonCompli	1.000				
apepr3	<---	RiskAw	1.085	.122	8.888	***	par_76
apepr4	<---	RiskAw	1.139	.123	9.276	***	par_77
cbi1	<---	CoIntent	1.000				
cbi2	<---	CoIntent	.996	.097	10.243	***	par_78
cbi3	<---	CoIntent	1.056	.104	10.160	***	par_79
cces1	<---	CoComit	1.000				
cces2	<---	CoComit	1.001	.082	12.136	***	par_84
cces4	<---	CoComit	.961	.082	11.763	***	par_85
csria1	<---	CSRAlign	1.000				
csria2	<---	CSRAlign	.848	.078	10.852	***	par_86
csria4	<---	CSRAlign	.922	.084	10.943	***	par_87
teii1	<---	EnvTransp	1.000				
teii2	<---	EnvTransp	.786	.092	8.513	***	par_88
teii4	<---	EnvTransp	.947	.104	9.094	***	par_89
cnab2	<---	ComReact	1.000				
apepr2	<---	RiskAw	1.000				
eam4	<---	AcctProc	.797	.064	12.512	***	par_90

Standardized Regression Weights: (EXPTs - Default model)

			Estimate
RiskAw	<---	NonCompli	.132
ComReact	<---	RiskAw	.467
ComReact	<---	NonCompli	.046
AcctProc	<---	ComReact	.140
AcctProc	<---	RiskAw	-.006
CoIntent	<---	AcctProc	.249
CoIntent	<---	ComReact	.227
CoComit	<---	CoIntent	.170
CoComit	<---	AcctProc	.558
CSRAlign	<---	AcctProc	.181
EnvTransp	<---	AcctProc	.167
eam1	<---	AcctProc	.974
eam2	<---	AcctProc	.749
eam3	<---	AcctProc	.722
cnab3	<---	ComReact	.866
cnab4	<---	ComReact	.925
npnid3	<---	NonCompli	.836
npnid2	<---	NonCompli	.832
npnid1	<---	NonCompli	.866
apepr3	<---	RiskAw	.778
apepr4	<---	RiskAw	.841
cbi1	<---	CoIntent	.825
cbi2	<---	CoIntent	.832
cbi3	<---	CoIntent	.823
cces1	<---	CoComit	.862
cces2	<---	CoComit	.860
cces4	<---	CoComit	.838
csria1	<---	CSRAlign	.892
csria2	<---	CSRAlign	.809
csria4	<---	CSRAlign	.816
teii1	<---	EnvTransp	.864
teii2	<---	EnvTransp	.724

			Estimate
teii4	<---	EnvTransp	.803
cnab2	<---	ComReact	.862
apepr2	<---	RiskAw	.787
eam4	<---	AcctProc	.778

Covariances: (EXPTs - Default model)

			Estimate	S.E.	C.R.	P	Label
E2	<-->	E25	.013	.041	.312	.755	par_91
E12	<-->	E8	.048	.038	1.256	.209	par_92
E10	<-->	E24	.004	.035	.112	.911	par_93

Correlations: (EXPTs - Default model)

			Estimate
E2	<-->	E25	.035
E12	<-->	E8	.138
E10	<-->	E24	.014

Variances: (EXPTs - Default model)

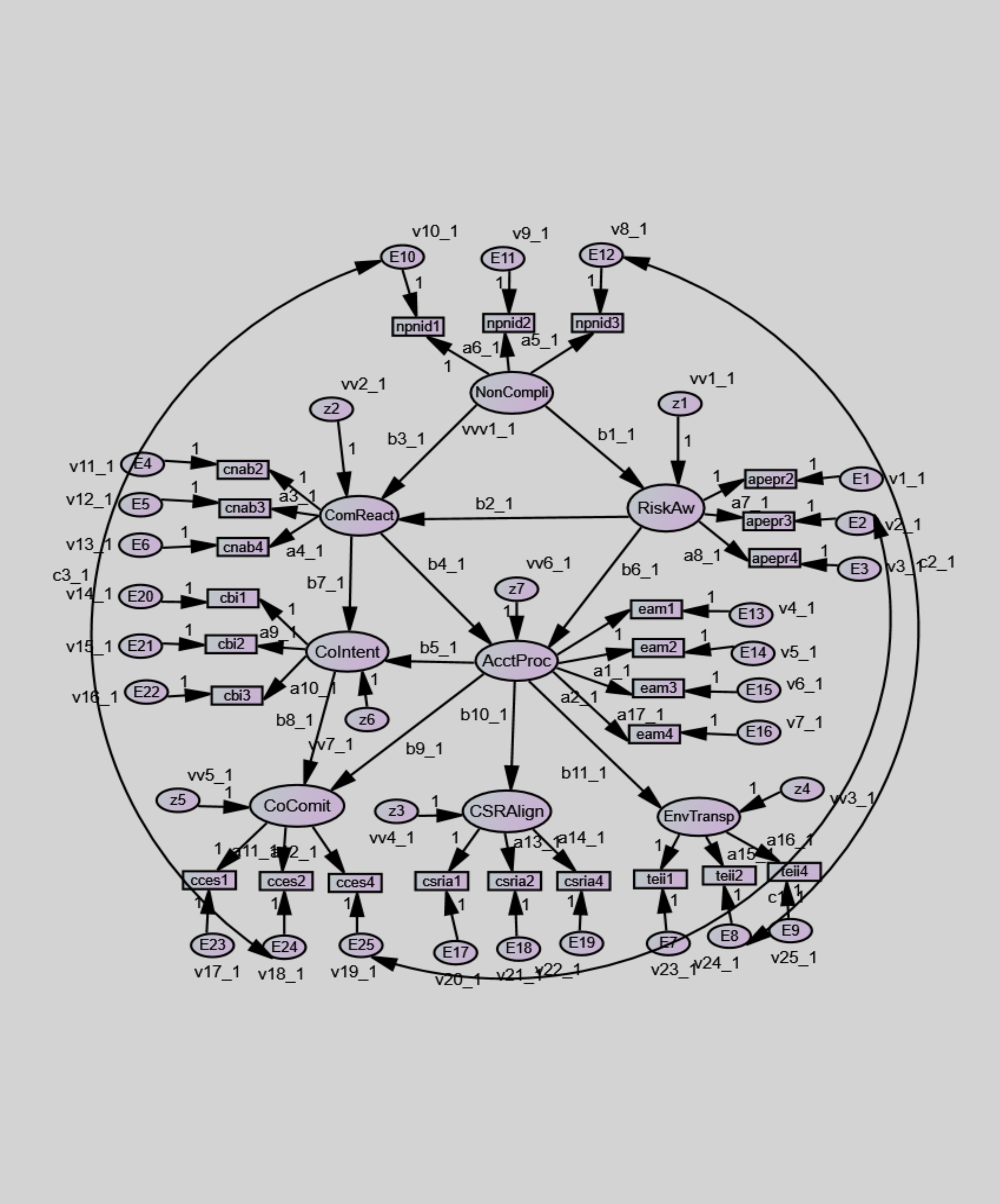
	Estimate	S.E.	C.R.	P	Label
NonCompli	.855	.142	6.007	***	par_160
z1	.561	.110	5.090	***	par_161
z2	.627	.106	5.911	***	par_162
z7	.938	.124	7.549	***	par_163
z6	.628	.115	5.455	***	par_164
z4	.704	.125	5.622	***	par_165
z3	.613	.099	6.204	***	par_166
z5	.480	.085	5.652	***	par_167
E4	.281	.047	6.034	***	par_168
E5	.306	.052	5.917	***	par_169
E22	.384	.070	5.449	***	par_170
E21	.317	.061	5.226	***	par_171
E20	.338	.063	5.397	***	par_172
E6	.161	.042	3.865	***	par_173
E10	.286	.061	4.701	***	par_174
E11	.313	.056	5.585	***	par_175
E12	.303	.055	5.473	***	par_176
E1	.352	.061	5.747	***	par_177
E2	.439	.074	5.908	***	par_178
E3	.307	.067	4.566	***	par_179
E13	.051	.036	1.433	.152	par_180
E14	.474	.063	7.564	***	par_181
E15	.427	.055	7.709	***	par_182
E16	.395	.054	7.356	***	par_183
E9	.357	.069	5.152	***	par_184
E8	.406	.062	6.567	***	par_185
E7	.245	.067	3.648	***	par_186
E19	.270	.046	5.813	***	par_187
E18	.240	.040	5.957	***	par_188
E17	.162	.044	3.731	***	par_189
E25	.310	.053	5.881	***	par_190
E24	.279	.052	5.355	***	par_191
E23	.275	.052	5.318	***	par_192

Squared Multiple Correlations: (EXPTs - Default model)

	Estimate
RiskAw	.017
ComReact	.226

	Estimate
AcctProc	.019
CoIntent	.129
EnvTransp	.028
CSRAlign	.033
CoComit	.394
eam4	.606
apepr2	.619
cnab2	.742
teii4	.645
teii2	.524
teii1	.747
csria4	.666
csria2	.655
csria1	.796
cces4	.702
cces2	.740
cces1	.742
cbi3	.677
cbi2	.693
cbi1	.681
apepr4	.707
apepr3	.605
npnid1	.749
npnid2	.693
npnid3	.699
cnab4	.855
cnab3	.750
eam3	.521
eam2	.562
eam1	.949

11H: Modified Group Input Structural Model



11(I): Group Structural Model Fit Summary after Modification

CMIN

Model	NPAR	CMIN	DF	P	CMIN/DF
Unconstrained	192	1282.646	783	.000	1.638
Measurement weights	158	1326.931	817	.000	1.624
Structural weights	136	1387.575	839	.000	1.654
Saturated model	975	.000	0		

Model	NPAR	CMIN	DF	P	CMIN/DF
Independence model	75	5245.580	900	.000	5.828

RMR, GFI

Model	RMR	GFI	AGFI	PGFI
Unconstrained	.116	.769	.713	.618
Measurement weights	.120	.761	.714	.637
Structural weights	.145	.751	.711	.647
Saturated model	.000	1.000		
Independence model	.270	.349	.294	.322

Baseline Comparisons

Model	NFI Delta1	RFI rho1	IFI Delta2	TLI rho2	CFI
Unconstrained	.755	.719	.888	.868	.885
Measurement weights	.747	.721	.885	.871	.883
Structural weights	.735	.716	.876	.865	.874
Saturated model	1.000		1.000		1.000
Independence model	.000	.000	.000	.000	.000

RMSEA

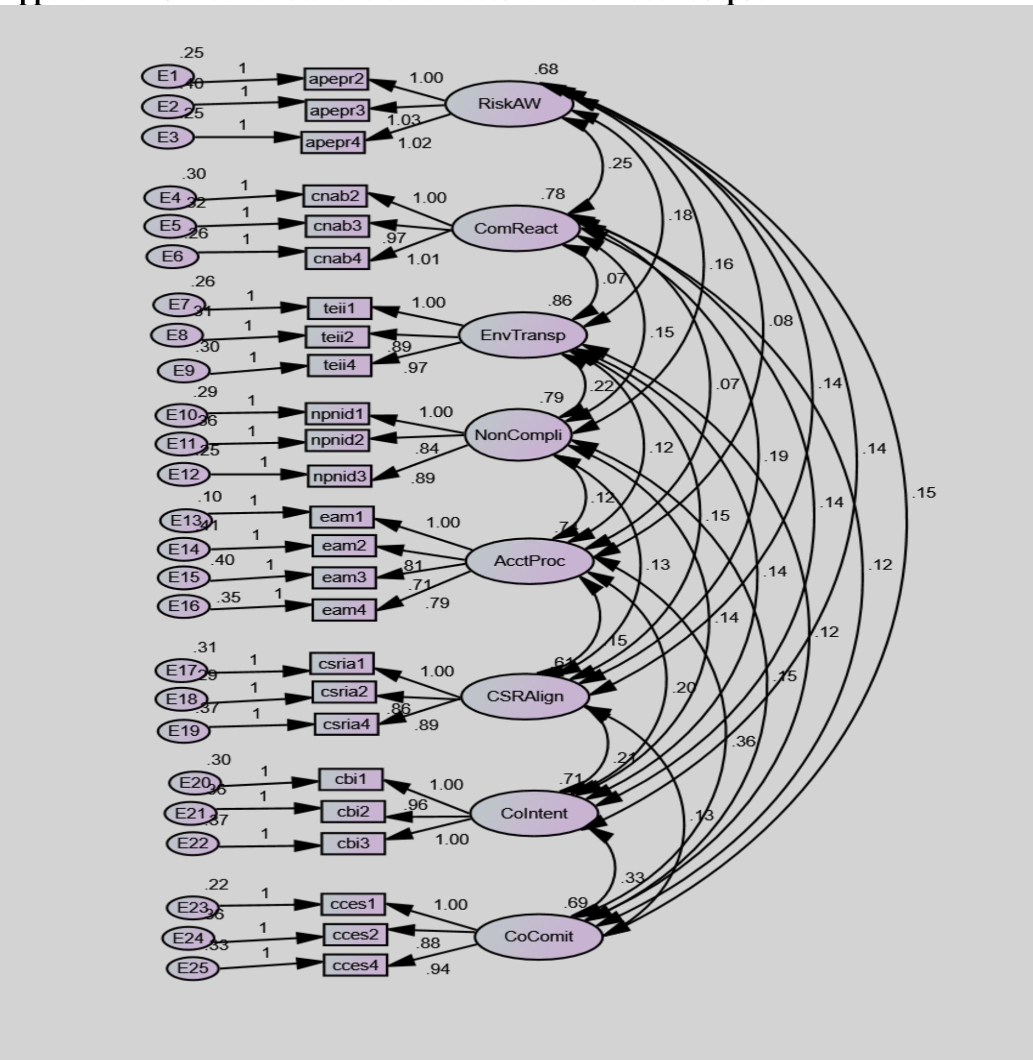
Model	RMSEA	LO 90	HI 90	PCLOSE
Unconstrained	.046	.042	.051	.917
Measurement weights	.046	.041	.050	.945
Structural weights	.047	.042	.051	.889
Independence model	.127	.124	.130	.000

Nested Structural Model Comparisons – Assuming model Measurement weights to be correct:

Model	DF	CMIN	P	NFI Delta-1	IFI Delta-2	RFI rho-1	TLI rho2
Structural weights	22	60.644	.000	.012	.014	.005	.006

Appendix 12: Combined External Stakeholders Graphical and Text Output

Appendix 12A: External Stakeholders Measurement Model Output



Appendix 12B: External Stakeholder **Model Fit Summary**

Model	NPAR	CMIN	DF	P	CMIN/DF
Default model	78	401.602	247	.000	1.626
Saturated model	325	.000	0		
Independence model	25	3794.913	300	.000	12.650

RMR, GFI

Model	RMR	GFI	AGFI	PGFI
Default model	.039	.896	.863	.681
Saturated model	.000	1.000		
Independence model	.235	.388	.337	.358

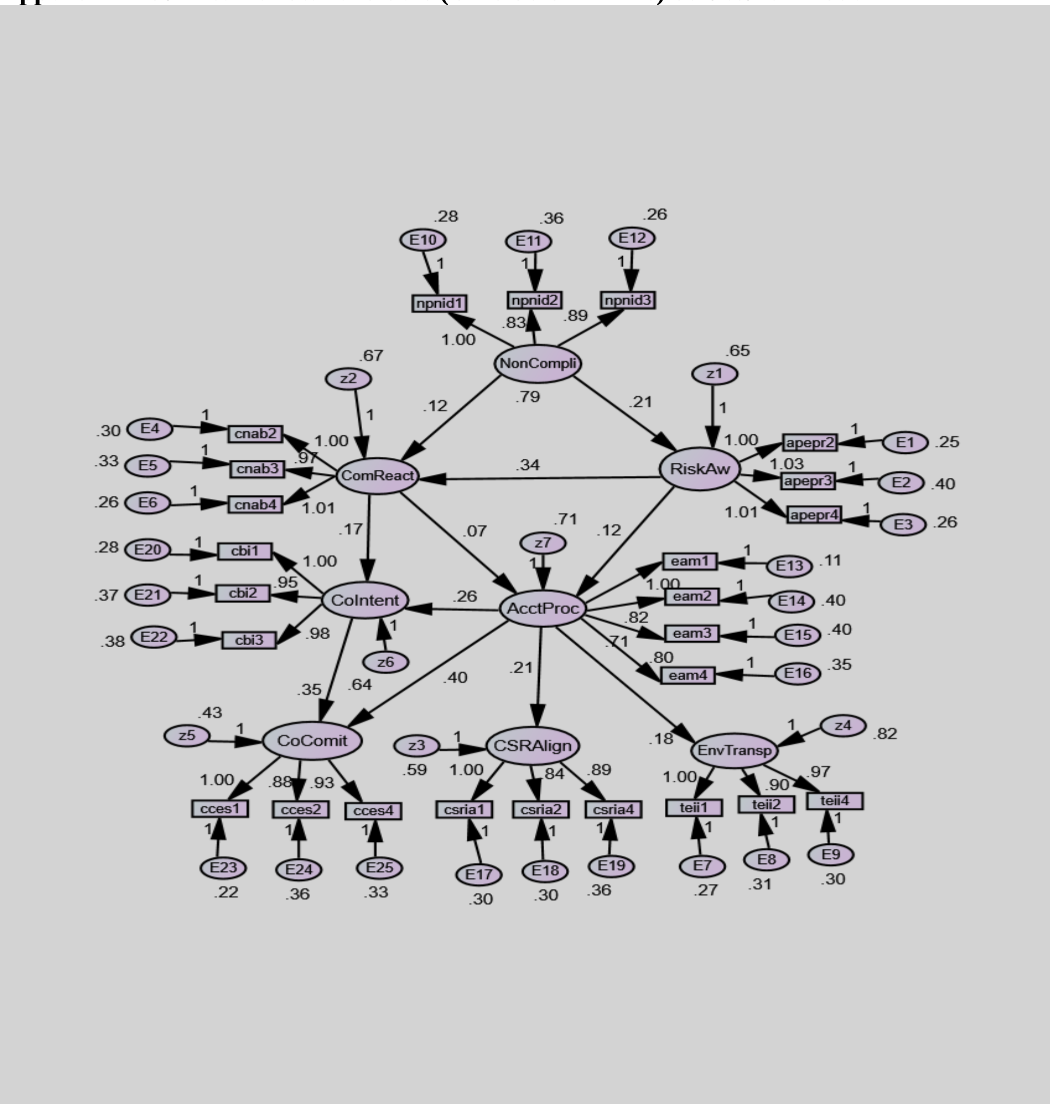
Baseline Comparisons

Model	NFI Delta1	RFI rho1	IFI Delta2	TLI rho2	CFI
Default model	.894	.871	.956	.946	.956
Saturated model	1.000		1.000		1.000
Independence model	.000	.000	.000	.000	.000

RMSEA

Model	RMSEA	LO 90	HI 90	PCLOSE
Default model	.049	.040	.058	.560
Independence model	.212	.206	.218	.000

Appendix 12C: External Stakeholders (CNGOs & EXPTs) Structural Model



Appendix 12D: External Stakeholder Structural Model Fit Summary
CMIN

Model	NPAR	CMIN	DF	P	CMIN/DF
Default model	61	465.683	264	.000	1.764
Saturated model	325	.000	0		
Independence model	25	3794.913	300	.000	12.650

RMR, GFI

Model	RMR	GFI	AGFI	PGFI
Default model	.083	.879	.851	.714
Saturated model	.000	1.000		
Independence model	.235	.388	.337	.358

Baseline Comparisons

Model	NFI Delta1	RFI rho1	IFI Delta2	TLI rho2	CFI
Default model	.877	.861	.943	.934	.942
Saturated model	1.000		1.000		1.000
Independence model	.000	.000	.000	.000	.000

RMSEA

Model	RMSEA	LO 90	HI 90	PCLOSE
Default model	.054	.046	.062	.192
Independence model	.212	.206	.218	.000

Appendix 12E: Scalar Estimates (External Stakeholder - Default model), Maximum Likelihood Estimates
Regression Weights: (Ext_Stake - Default model)

			Estimate	S.E.	C.R.	P	Label
RiskAw	<---	NonCompli	.210	.065	3.208	.001	par_1
ComReact	<---	RiskAw	.341	.075	4.516	***	par_2
ComReact	<---	NonCompli	.119	.069	1.734	.083	par_3
AcctProc	<---	ComReact	.068	.072	.942	.346	par_4
AcctProc	<---	RiskAw	.119	.077	1.547	.122	par_6
CoIntent	<---	AcctProc	.260	.068	3.829	***	par_5
CoIntent	<---	ComReact	.171	.066	2.579	.010	par_7
CoComit	<---	CoIntent	.350	.065	5.406	***	par_18
CoComit	<---	AcctProc	.398	.062	6.378	***	par_19
CSRAlign	<---	AcctProc	.215	.065	3.282	.001	par_20
EnvTransp	<---	AcctProc	.183	.074	2.490	.013	par_21
eam1	<---	AcctProc	1.000				
eam2	<---	AcctProc	.819	.057	14.327	***	par_8
eam3	<---	AcctProc	.712	.055	13.038	***	par_9
cnab3	<---	ComReact	.967	.063	15.385	***	par_10
cnab4	<---	ComReact	1.008	.063	15.965	***	par_11
npnid3	<---	NonCompli	.889	.061	14.471	***	par_12
npnid2	<---	NonCompli	.834	.061	13.581	***	par_13
npnid1	<---	NonCompli	1.000				
apepr3	<---	RiskAw	1.031	.071	14.541	***	par_14
apepr4	<---	RiskAw	1.010	.066	15.348	***	par_15
cbi1	<---	CoIntent	1.000				
cbi2	<---	CoIntent	.950	.070	13.603	***	par_16
cbi3	<---	CoIntent	.978	.072	13.659	***	par_17
cces1	<---	CoComit	1.000				
cces2	<---	CoComit	.878	.065	13.526	***	par_22
cces4	<---	CoComit	.933	.066	14.137	***	par_23
csria1	<---	CSRAlign	1.000				
csria2	<---	CSRAlign	.837	.073	11.424	***	par_24
csria4	<---	CSRAlign	.888	.078	11.369	***	par_25
teii1	<---	EnvTransp	1.000				
teii2	<---	EnvTransp	.898	.057	15.722	***	par_26
teii4	<---	EnvTransp	.974	.060	16.158	***	par_27
cnab2	<---	ComReact	1.000				
apepr2	<---	RiskAw	1.000				
eam4	<---	AcctProc	.801	.054	14.887	***	par_28

Standardized Regression Weights: (Ext_Stake - Default model)

			Estimate
RiskAw	<---	NonCompli	.226
ComReact	<---	RiskAw	.320
ComReact	<---	NonCompli	.120
AcctProc	<---	ComReact	.070

			Estimate
AcctProc	<---	RiskAw	.115
CoIntent	<---	AcctProc	.262
CoIntent	<---	ComReact	.178
CoComit	<---	CoIntent	.358
CoComit	<---	AcctProc	.409
CSRAlign	<---	AcctProc	.232
EnvTransp	<---	AcctProc	.170
eam1	<---	AcctProc	.935
eam2	<---	AcctProc	.740
eam3	<---	AcctProc	.694
cnab3	<---	ComReact	.831
cnab4	<---	ComReact	.866
npnid3	<---	NonCompli	.843
npnid2	<---	NonCompli	.777
npnid1	<---	NonCompli	.860
apepr3	<---	RiskAw	.804
apepr4	<---	RiskAw	.854
cbi1	<---	CoIntent	.848
cbi2	<---	CoIntent	.800
cbi3	<---	CoIntent	.804
cces1	<---	CoComit	.871
cces2	<---	CoComit	.770
cces4	<---	CoComit	.803
csria1	<---	CSRAlign	.822
csria2	<---	CSRAlign	.769
csria4	<---	CSRAlign	.761
teii1	<---	EnvTransp	.870
teii2	<---	EnvTransp	.831
teii4	<---	EnvTransp	.855
cnab2	<---	ComReact	.850
apepr2	<---	RiskAw	.856
eam4	<---	AcctProc	.759

Squared Multiple Correlations: (Ext_Stake - Default model)

	Estimate
RiskAw	.051
ComReact	.134
AcctProc	.024
CoIntent	.111
EnvTransp	.029
CSRAlign	.054
CoComit	.378
eam4	.576
apepr2	.733
cnab2	.722
teii4	.731
teii2	.690
teii1	.756
csria4	.579
csria2	.591
csria1	.676
cces4	.645
cces2	.593
cces1	.759
cbi3	.646
cbi2	.640
cbi1	.719

	Estimate
apepr4	.730
apepr3	.646
npnid1	.739
npnid2	.604
npnid3	.710
cnab4	.749
cnab3	.690
eam3	.482
eam2	.547
eam1	.873

Appendix 13: Conferences and Papers Presented

1. British Academy of Management (BAM) 2015 Conference in Portsmouth (7-9 September 2015)
   Paper Presented:
   Examining the corporate Social Responsibility Contribution to Environmental Sustainability in Developing Countries: The Role of Accountability perspectives.

2. 3rd International Conference on CSR and Sustainable Development (CSR-2015) Dubai (4 – 5, May 2015)
   Paper presented:
   Theory of Reasoned Action and Accountability Perspectives on CSR Contribution to Environmental Sustainability in Developing Countries.

Appendix 14: Publishable Articles Under Review

1. Corporate Environmental Sustainability Factors in Nigeria Oil and Gas Industry (Submitted to Critical Perspectives on International Business Journal (Emerald Publishers) – Under review.

2. Accountability: An Intermediary Construct in the Framework of Corporate Social Responsibility Contribution to Environmental Sustainability in Developing Countries (Submitted to Accounting, Auditing & Accountability Journal (Emerald Publishers) – Under review.